ALTO SHAAM®

COMBITHERM®

INSTALLATION
MAINTENANCE
SERVICE

ELECTRIC
ML SERIES

COMBINATION
OVEN/STEAMERS

W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 • U.S.A.

PHONE: (262)251-3800 (800)558-8744 U.S.A./CANADA FAX: (262)251-7067 (800)329-8744 U.S.A. (262)251-1907 INTERNATIONAL

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COMBITHERM ALTO SHAAM ELECTRIC

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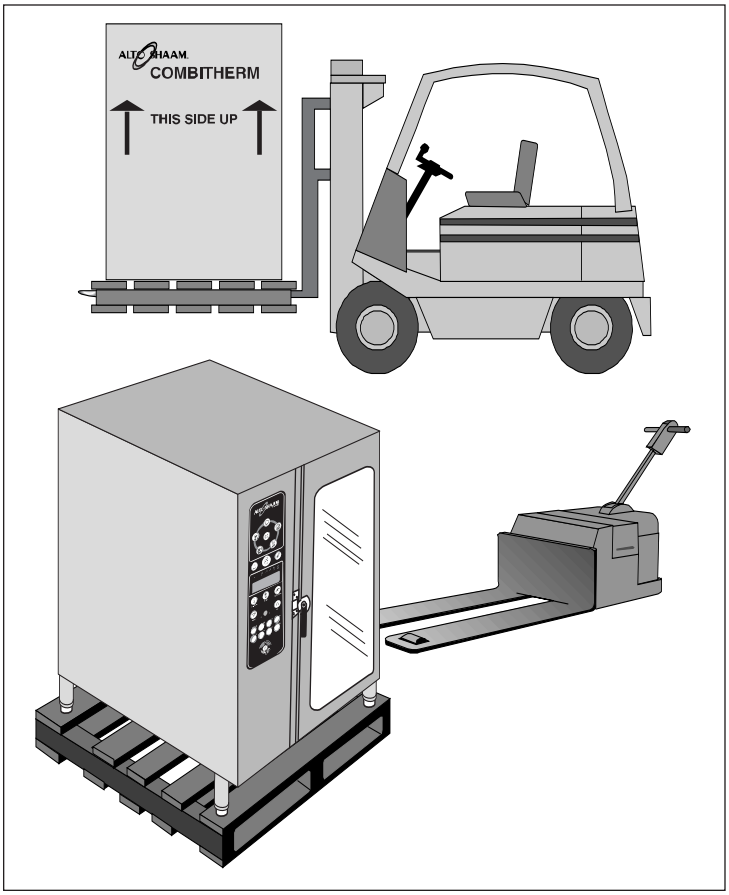
RECEIVING & TRANSPORTATION

Upon receipt of the Combitherm combination oven/steamer, check the exterior of the shipping carton for any physical damage that could result in damage to the contents. If the oven was not received from the carrier in an upright position, there is a stronger possibility of concealed damage. Remove the carton or uncrate the unit carefully and inspect for any transit damage. Immediately report any damage to the delivering freight carrier.

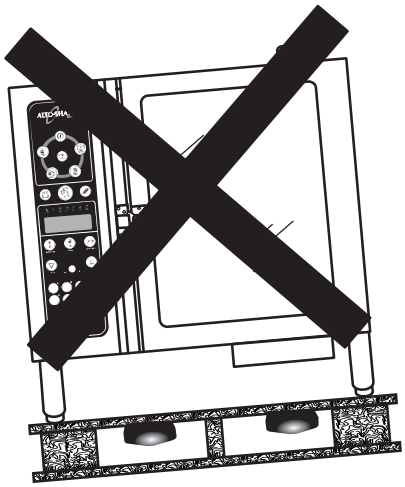
The oven must remain on the pallet while being moved to the installation site by fork lift or pallet lift truck.

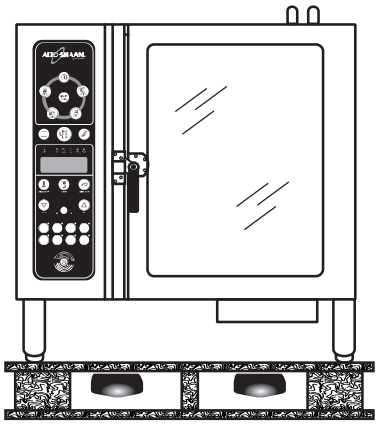
Note the dimensions required for doorways and aisles for access of the oven and pallet to the installation site. Transport the oven in an upright and level position only. ***Do not tilt the oven.***

With the oven on the original pallet, remove the carton and all packaging materials. Open the oven door and remove all documents and other materials from the oven interior. Remove the roll-in cart if so equipped.



PALLETIZED DIMENSIONS AND WEIGHT								
MODEL	WIDTH		DEPTH		HEIGHT W/PALLET		WEIGHT W/PALLET	
6•10	37"	(940mm)	47"	(1194mm)	69"	(1753mm)	415 lb	(188kg)
10•10	35"	(889mm)	45"	(1143mm)	78"	(1981mm)	495 lb	(225kg)
7•14	51"	(1259mm)	44"	(1118mm)	79"	(2007mm)	535 lb	(243kg)
10•18	51"	(1259mm)	44"	(1118mm)	74"	(1880mm)	754 lb	(342kg)
12•20	58"	(1473mm)	53"	(1346mm)	61"	(1549mm)	878 lb	(398kg)
20•20	54"	(1372mm)	53"	(1346mm)	83"	(2108mm)	1364 lb	(619kg)





COMBITHERM® INSTALLATION

BASIC INSTALLATION SITE REQUIREMENTS

HOOD INSTALLATION IS REQUIRED

- Installation surface must be level.
- Do not install adjacent to flammable surfaces.
- Deep fat fryers or similar heat producing equipment must not be installed in the immediate vicinity of the hand shower.

The oven must remain on the pallet while being moved to the installation site with fork lift or pallet lift truck.

Do not tilt the oven.

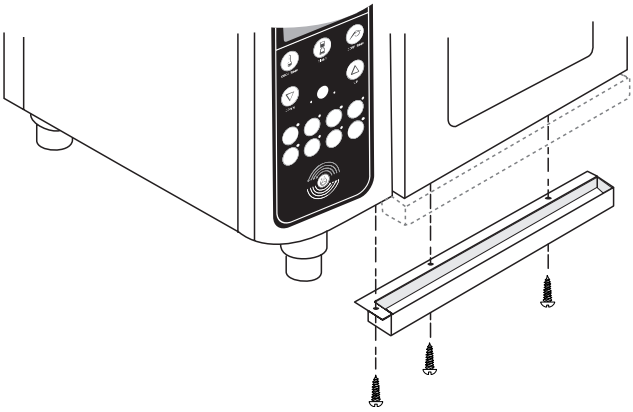
VENTILATION

A steam ventilation hood is mandatory for the operation of the oven. The ventilation hood must be installed in accordance with local building codes for steam exhaust and must protrude 12-inches to 20-inches (300mm to 500mm) over the front side of the oven. A grease filter must be located in the protruding area of the hood. Grease filters should be thoroughly cleaned on a regular basis following manufacturer's instructions. Ventilation hoods must ensure an adequate amount of incoming air during operation and must be operated whenever the combination oven/steamer is used in order to avoid the accumulation of condensation in the hood area.

If a ventless hood is to be installed, we recommend the Combitherm Ventless Hood for the appropriate model oven. Ventless hoods are available for the Combitherm models 6•10, 7•14, 10•10, and 10•18 (VHML-10) electric.

MODEL	VHML-10
Air Movement	1200 CFM
Drain Connection	3/4" (19,1mm) NPT
Electrical	208-240 V.A.C. — 50/60 Hz, 1 ph 240 watts, 1.0 amps
Ship Weight	126 lb (57 kg)
Replacement Filters	
GREASE	FI-23062
CHARCOAL	FI-24102

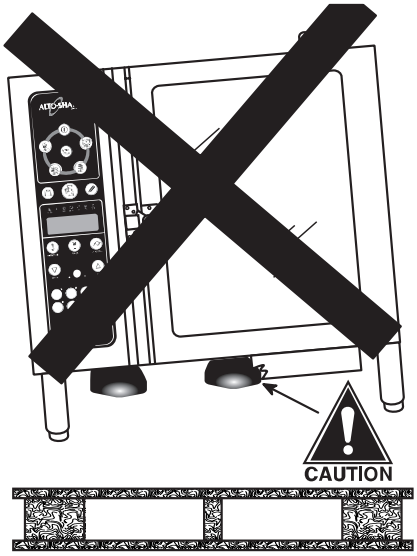
POSITIONING ON SITE

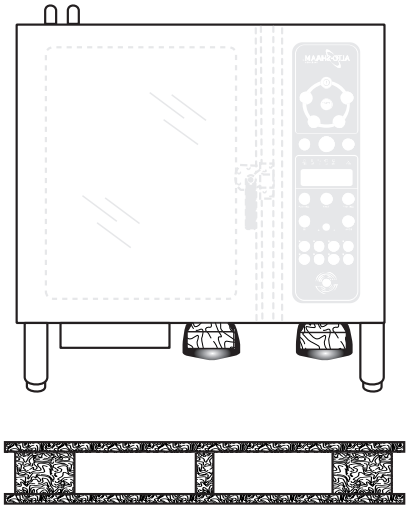


Before removing the oven from the pallet for positioning on site, it is important to remove the drip tray to prevent damage to the tray caused by the lifting forks. The drip tray is fastened to the bottom of the oven with three sheet metal screws as illustrated. This requirement pertains to the following models.

MODELS 6•10ML
10•10ML
7•14ML
10•18ML

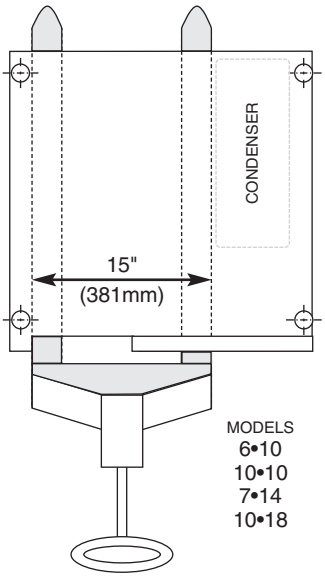
This step does *not* pertain to models 12•20ML and 20•20ML.

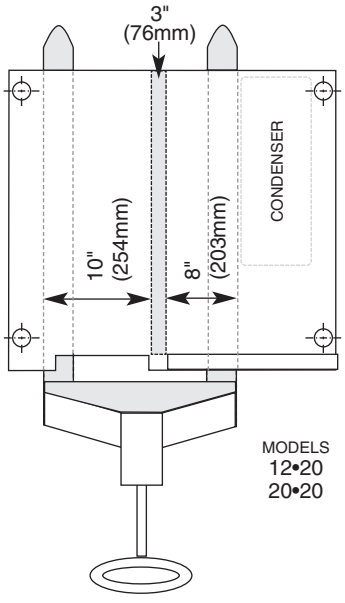




Lift the oven from the pallet with a fork lift or pallet lift truck positioned at the front of the oven. To avoid damage, position the lift forks to the left of the condenser as indicated in one of the two diagrams shown below. For additional damage protection, the use of two wooden boards, placed between the bottom of the oven and the lifting forks, is strongly recommended.

MODEL	NET WEIGHT
6•10	285 lb (129 kg)
10•10	385 lb (175 kg)
7•14	405 lb (184 kg)
10•18	514 lb (233 kg)
12•20	665 lb (302 kg)
20•20	958 lb (435 kg)





After the oven is correctly positioned on site, reattach the drip tray.

INSTALLATION REQUIREMENTS

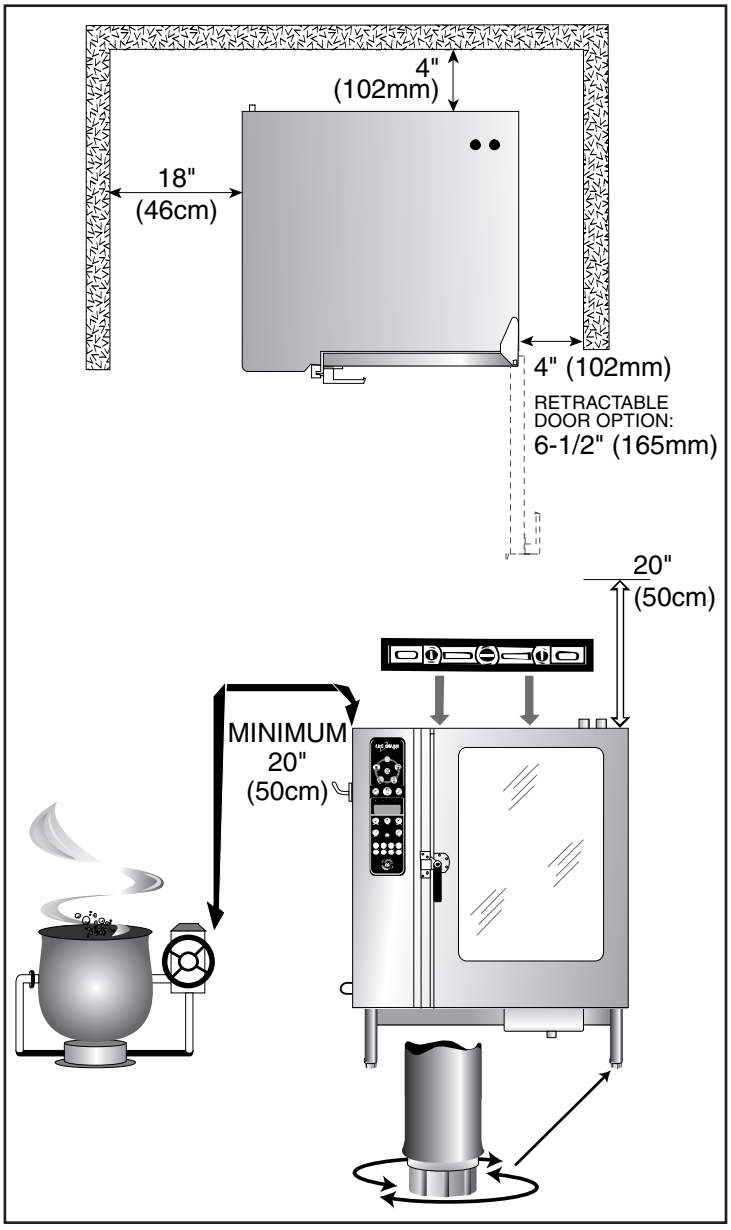
- ☐ Do not install oven adjacent to flammable surfaces. Strictly observe all local fire safety regulations.
- ☐ In order to ensure proper ventilation, a minimum distance of at least 6-inches (152mm) must be kept from the control panel side [LEFT] of the oven and any adjoining surfaces.

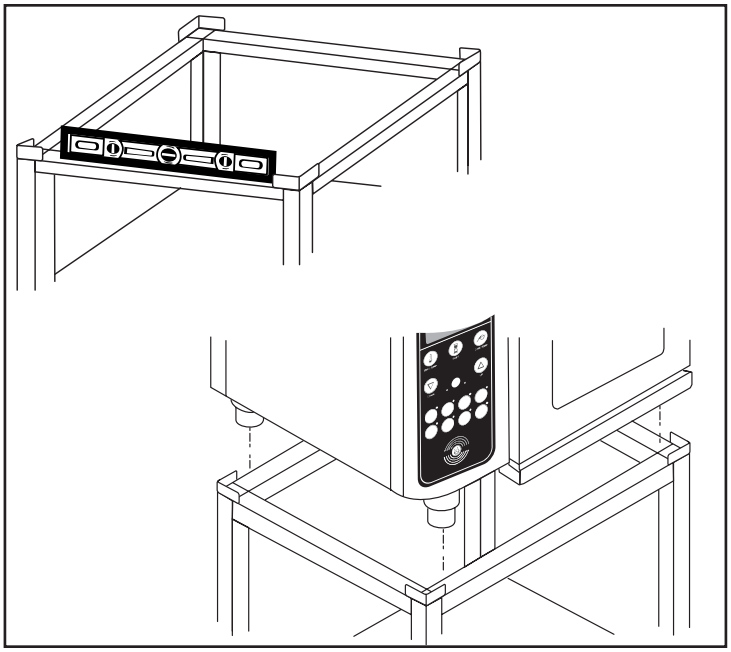
  NOTE: In addition to ventilation requirements, additional clearance is needed for service access. A minimum distance of 18-inches (457mm) is strongly recommended.
- ☐ Allow a minimum of 4-inches (102mm) from the right side of the oven to allow the door to open to at least a 90° angle. Fully opened, the door will extend up to a 225° angle. If the oven is furnished with the retractable door option, allow a minimum clearance of 6-1/2-inches (16cm).
- ☐ Allow a minimum clearance of 4-inches (102mm) from the back of the oven for plumbing connections.
- ☐ Allow a 20-inch (50cm) clearance at the top of the oven for free air movement and for the steam vent(s) located at the top [RIGHT-REAR].
- ☐ Do not install the oven adjacent to heat producing equipment such as fryers, broilers, etc. Minimum clearance recommended: 20-inches (50cm).

Place the Combitherm oven on a stable, ***LEVEL*** horizontal surface. For counter-top models, the oven stand must be level. In addition, the overall height of the oven should be positioned so the operating controls and shelves may be conveniently reached from the front.

ALL INSTALLATION INSTRUCTIONS AND REQUIREMENTS MUST BE STRICTLY OBSERVED.

IMPROPER CONNECTION OF THIS APPLIANCE NULLIFIES ALL WARRANTIES.

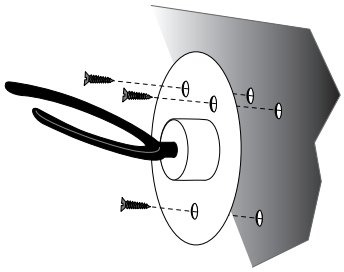




ASSEMBLY REQUIREMENTS

HAND SHOWER HOLDER

Fasten the hand shower holder in the holes provided on the oven using the three (3) screws packaged with the holder.

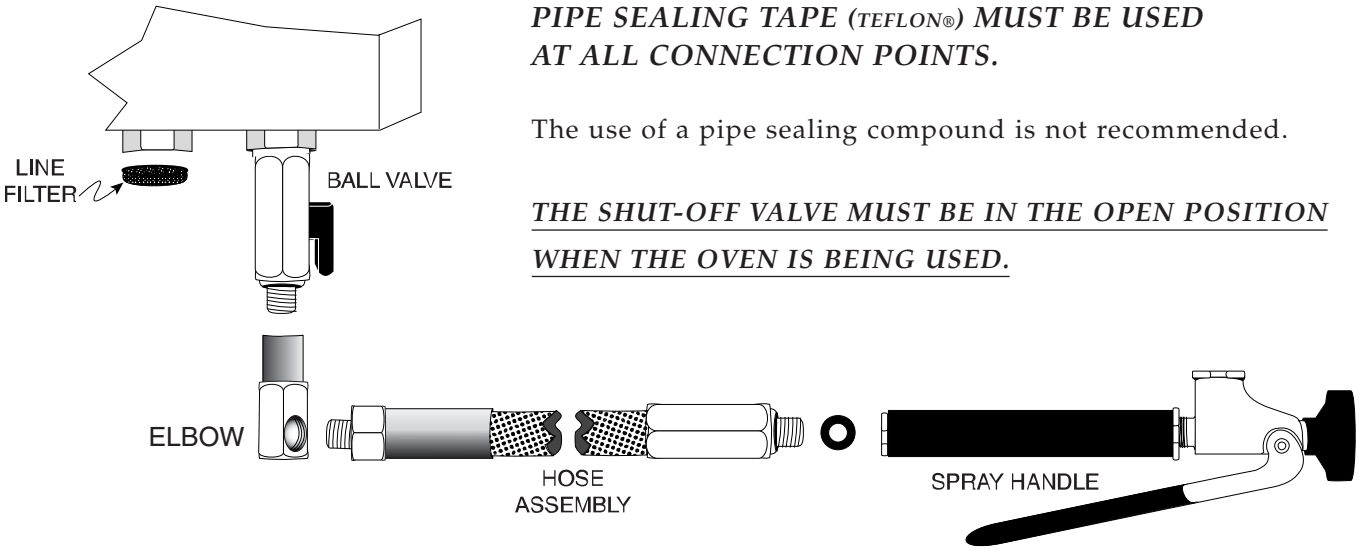


WATER SUPPLY

CONNECT TO POTABLE (DRINKABLE) COLD WATER ONLY

WATER PRESSURE REQUIREMENTS: MINIMUM **30 PSI (2 BAR)**
MAXIMUM **90 PSI (6 BAR)**

Flush the water line at the installation site before connecting the oven to the water supply. A shut-off valve and approved back-flow preventer must be installed when connecting the oven to the cold water intake. The water supply line must be a minimum of 3/4-inch (NPT) (19mm). A hose connector is supplied for flexible hose connection to the **COLD** water source. Connected water should test at hardness level of 5 to 9 grains per gallon (85 to 154 ppm). A water filtration system is recommended if the water supply is between 5 and 9 gpg of hardness. If water tests over 18 gpg of hardness (344 ppm), the installation of a water softener to maintain oven function is strongly recommended.



PIPE SEALING TAPE (TEFLON®) MUST BE USED AT ALL CONNECTION POINTS.

The use of a pipe sealing compound is not recommended.

THE SHUT-OFF VALVE MUST BE IN THE OPEN POSITION WHEN THE OVEN IS BEING USED.

WATER	
COLD WATER — DRINKING QUALITY	
INDIRECT WASTE PIPE WITH AIR GAP:	1-1/2" NPT
INLET: 3/4" NPT	**LINE PRESSURE:** 30 to 90 psi 2 to 6 bar
CHLORINE: less than 0.8 ppm	**CHLORIDE:** less than 70 ppm
HARDNESS: 5 to 9 gpg 85 to 154 ppm	**PH RANGE:** 7.0 to 9.0
WATER SOFTENER SHOULD BE UTILIZED IN HARD WATER AREAS.	

The hand shower spray hose is installed adjacent to the cold water intake connection. A ball valve is installed on the oven for hose connection to the **COLD** water source. Assemble the washer and the flexible hose on the ball valve and hang the spray handle on the holder previously installed on the oven.

WATER DRAINAGE

The oven must discharge through an indirect waste pipe by means of an air gap. The drain thread is 1-1/4-inch (32mm) NPT.

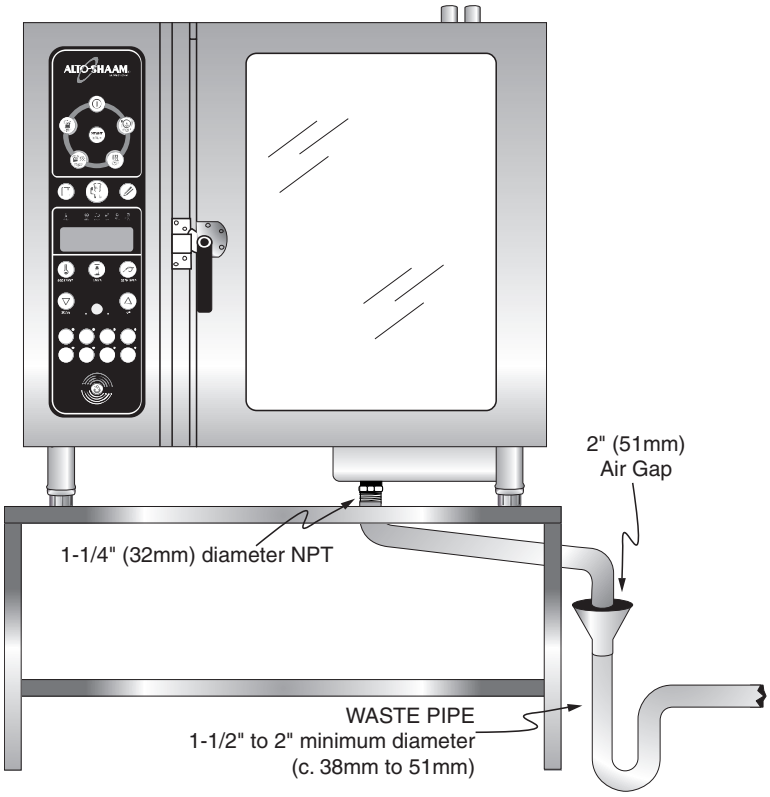
A union is required. Install a 1-1/4-inch (32mm) diameter drain line. The drain line must always be a positive gradient away from the Combitherm oven and not more than 12-inches (305mm) before an air gap.

NOTE: In the U.S.A., this equipment is to be installed to comply with the Basic Plumbing Code of the Building Officials and Code Administrators International, Inc. [BOCA], and the Food Service Sanitation Manual of the Food & Drug Administration [FDA].

If several units are to be connected to one drain pipe, the dimensions of the pipe must be sufficient to allow an unobstructed water drain system.

AVERAGE DRAIN WATER TEMPERATURE

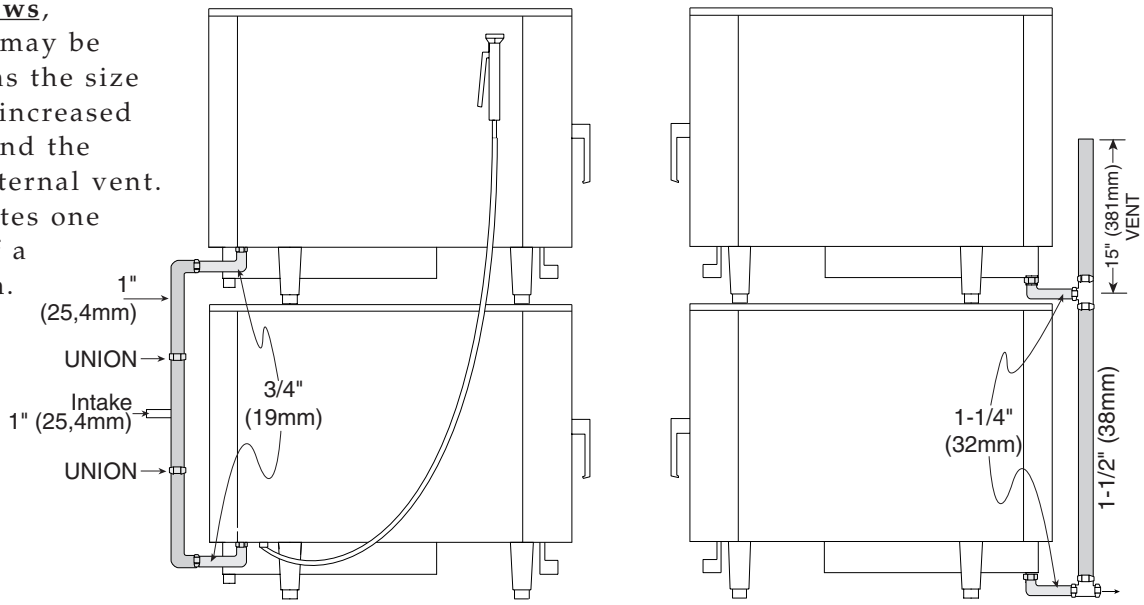
149°F (65°C)



STACKING INSTALLATION

Stacking Combitherm ovens require two (2) water connections, two (2) drain connections, and two (2) electrical connections.

If local code allows, the water and drain may be manifolded as long as the size of the water inlet is increased to 1-inch (25,4mm) and the drains include an external vent. The drawing illustrates one suggested method of a manifold installation.



WATER INTAKE **DRAIN**

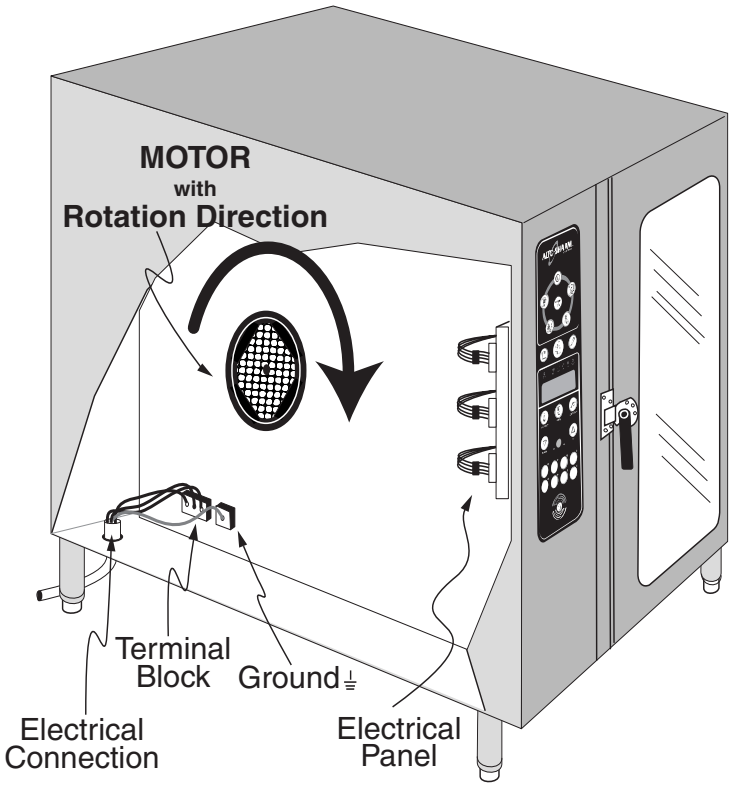
ELECTRICAL INSTALLATION

ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED ELECTRICIAN IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.

An electrical wiring diagram is located behind the control panel on the left side of the oven. The oven must be installed by a qualified electrician. This appliance must be branch circuit protected with proper ampacities, in accordance with the wiring diagram located in the electrical compartment of the oven. The oven must be properly grounded in accordance with the National Electrical Code and applicable local codes.

CAUTION

ENSURE THE AVAILABLE POWER SOURCE MATCHES THE VOLTAGE STAMPED ON THE NAMEPLATE OF THE OVEN.



Wire size for the main incoming power to the unit must match the minimum size listed in the specifications applicable to the specific oven model. For supply connections, locate the wire size posted on the label located on the electrical control box cover, behind the service panel or elsewhere listed in this manual.

c UL us LISTED COOKING APPLIANCE 584M

CLASSIFIED UL EPH ANSI/NSF4

CE emc

When connecting to a Delta-B (wild leg) on a 3-phase system, the wild leg must be connected to line 3.

FOLLOWING ELECTRICAL CONNECTION, THE FAN *MUST* ROTATE IN THE SAME DIRECTION AS THE ARROW LOCATED ON THE OVEN FAN MOTOR.

THIS APPLIANCE *WILL NOT* FUNCTION PROPERLY AND DAMAGE CAN OCCUR IF THE MOTOR ROTATION IS NOT CORRECT.

TO CHANGE MOTOR DIRECTION, EXCHANGE TWO OF THE INCOMING PHASES.

Before operating the oven, check all cable connections in the electrical connection area for tightness since connections can loosen during transport.

NOTE: After both water and electrical connections have been completed, operate the oven in any cooking mode for a period of 15 minutes and recheck the main power connections at the terminal block to make certain they remain tight.

ADDITIONAL TECHNICAL DATA

MODEL ⇨	6•10ML	10•10ML	7•14ML	10•18ML	12•20ML	20•20ML
Type of Oven	counter oven stand	counter oven stand	counter oven stand	counter oven stand	floor w/roll-in cart	floor w/roll-in cart
Pan Capacity INCHES	6: 12" x 20"	10: 12" x 20"	14: 12" x 20"	20: 12" x 20"	24: 12" x 20"	40: 12" x 20"
	6: 18" x 13"	10: 18" x 13"	7: 18" x 26"	10: 18" x 26"	12: 18" x 26"	20: 18" x 26"
GASTRONORM	6: GN 1/1	10: GN 1/1	14: GN 1/1	20: GN 1/1	24: GN 1/1	40: GN 1/1
					12: GN 2/1	20: GN 2/1
Side Rack Spacing INCHES (MILLIMETERS)	2-5/8 (65mm)	2-5/8 (65mm)	2-5/8 (65mm)	2-5/8 (65mm)	2-5/8 (65mm)	2-5/8 (65mm)
Interior Width INCHES (MILLIMETERS)	23-1/2 (596)	23-1/2 (596)	23-1/2 (596)	23-1/2 (596)	26-1/4 (667)	26-1/4 (667)
Interior Depth INCHES (MILLIMETERS)	21-1/16 (535)	21-1/16 (535)	28-7/16 (722)	28-7/16 (722)	32-11/16 (830)	32-11/16 (830)
Interior Height INCHES (MILLIMETERS)	17-3/4 (451)	27 (685)	20-5/16 (515)	30-3/4 (781)	38-11/16 (983)	60-1/4 (1530)
Noise Level	The noise emission level related to the workplace is lower than: 70 dBA					
Spray Hose Length	81-inches (2050mm)	81-inches (2050mm)	87-inches (2200mm)	87-inches (2200mm)	87-inches (2200mm)	102-inches (2600mm)
Water Consumption (APPROX.)	5 -8 gal/hr (20-30 l/hr)	8-13 gal/hr (30-50 l/hr)	8-13 gal/hr (30-50 l/hr)	10.5-18.5 gal/hr (40-70 l/hr)	13-21 gal/hr (50-80 l/hr)	21-26.5 gal/hr (80-100 l/hr)
Steam Generator Water Consumption (APPROX.)	0.05 gal/min (0.2 l/min)	0.10 gal/min (0.4 l/min)	0.10 gal/min (0.4 l/min)	0.13 gal/min (0.5 l/min)	0.16 gal/min (0.6 l/min)	0.21 gal/min (0.8 l/min)
Steam Generator Rating (APPROX.)	27.7 lb/hr (12.6 kg/hr)	46.3 lb/hr (21 kg/hr)	46.3 lb/hr (21 kg/hr)	69.2 lb/hr (31.4 kg/hr)	83.3 lb/hr (37.8 kg/hr)	111.1 lb/hr (50.4 kg/hr)
Steam Generator Volume GALLONS (LITERS)	1.3 (5)	2.6 (10)	2.6 (10)	4.0 (15)	4.0 (15)	5.3 (20)
Radiated Heat Loss BTU/HR (kJ/H)	2823 (2981)	4419 (4666)	4419 (4666)	6874 (7258)	8592 (10368)	15729 (16608)
Latent Heat Loss BTU/HR (kJ/h)	2945 (3110)	4909 (5184)	4909 (5184)	6750 (7128)	8101 (8554)	11783 (12442)
Total Heat Loss BTU/HR (kJ/h)	5768 (6091)	9328 (9850)	9328 (9850)	13624 (14386)	16693 (17626)	27513 (29050)
Air Circulation (WITH/WITHOUT HOOD) cubic feet/hr △T=8K (m^3/h)	10170/8122 (288/230)	16951/13419 (480/380)	16951/13419 (480/380)	27121/21541 (768/610)	33902/26839 (960/760)	67804/54031 (1920/1530)
Air Circulation (WITH/WITHOUT HOOD) cubic feet/hr △x=5g/kg (m^3/h)	6356/4590 (180/130)	10594/7416 (300/210)	10594/7416 (300/210)	15891/11300 (450/320)	19069/13419 (540/380)	25426/18363 (720/520)

COMBITHERM® INSTALLATION

INSTRUCTIONS TO BE PROVIDED TO OWNER/OPERATOR	INITIALS/DATE
☐ Owner/operator has been instructed on proper method of flushing the steam generator and safe procedures for handling the steam generator drain cap.	
☐ Owner/operator has been instructed on the importance of cleaning the oven along with proper cleaning procedures including automatic steam generator flush, daily cleaning of the interior, and monthly decalcification.	
☐ Owner/operator has been advised to use authorized Combitherm oven cleaner only.	
☐ Owner/operator has been informed of the safety warnings located in the operation guide including the warning not to handle pans containing liquid or semi liquid products positioned above eye level of the operator.	

Damage directly attributed to improper set up, installation, or cleaning can invalidate warranty claims.

ELECTRIC COMBITHERM INSTALLATION CHECKLIST

Use this list as a final check of oven installation conformance. Damage directly attributed to improper set up, installation, or cleaning can invalidate warranty claims.

CLEARANCES:

All clearances must conform with the standards set by Alto-Shaam as indicated in the installation manual. Standards include a minimum 20" (50cm) clearance from any heat-producing device such as an open burner range, flat top grille, fryer, steamer, etc. Also make sure sufficient service access is provided on the left side of the oven. There must be an allowance of free air access to all vents.

RIGHT SIDE CLEARANCE: _____

LEFT SIDE CLEARANCE: _____

REAR CLEARANCE: _____

UPPER CLEARANCE: _____

WATER SUPPLY AND DRAINS:

Verify hook-up to ***cold*** water supply with a 3/4" (19mm) single water connection supply line. Verify inlet water pressure is at a minimum of 30 PSI (2 bar) for electric ovens. Maximum pressure is not to exceed 90 PSI (6 bar). Verify the installation of a water filter and the installation of a water conditioner if water supply is over 10 grains of hardness. Verify drain diameter of 1-1/4" (32mm) with a positive descending slope, and with a 2" (51mm) air gap which is free of obstructions before connection to the site drain. Verify 1/8" (3,2mm) pitch to 10' (305cm) of drain line. After pressure is adjusted, seal screw with enamel such as nail polish.

WATER SUPPLY LINE DIA: _____

COLD WATER: ☐ YES ☐ NO

WATER INLET PRESSURE: _____

DRAIN LINE DIA: _____

2" (51mm) AIR GAP: ☐ YES ☐ NO

ELECTRICAL CONNECTIONS:

Verify electrical power requirements for oven. Verify voltage at terminal block. Verify correct power cable size. Verify equipment disconnect per NEC or applicable local codes. Motor direction should correspond with the direction of the arrow on the motor. Verify clockwise motor rotation from the rear of the motor. Check all terminals for tightness.

VOLTAGE: _____

PHASE: _____

LINE VOLTAGE AT TERMINAL BLOCK (TO GROUND):

➥ **LINE 1:** _____ **LINE 2:**_____ **LINE 3:** _____

LINE VOLTAGE (PHASE TO PHASE): LINE 1 to 2: _____

LINE 2 to 3: _____

LINE 3 to 1: _____

ELECTRICAL SUPPLY LINE SIZE: _____

CORRECT MOTOR ROTATION: ☐ YES ☐ NO

ALL ELECTRICAL TERMINALS TIGHT: ☐ YES ☐ NO

CONTROL BOARD CONNECTIONS & OPERATION:

Verify all control board connections are tight including tightness and proper connection of ribbon/computer cables. Verify all buttons and lights illuminate. With the Power Key OFF, press and hold the Chef Function Key to access software version, and record. Verify all functions operate.

ALL BOARD CONNECTIONS TIGHT: ☐ YES ☐ NO

ALL FUNCTIONS LIGHT UP: ☐ YES ☐ NO

ALL FUNCTIONS OPERATE: ☐ YES ☐ NO

SOFTWARE VERSION:

BM_____ **SM**_____ **KM**_____

PHYSICAL CONDITION:

	✔
Bottom of oven has been checked for damage due to improper positioning on site.	☐
Verify all gaskets, hoses, and carts are in place and function properly.	☐
If oven includes a cart, verify proper installation of the rack guide.	☐
Verify the installation of drip pans, racks, shelves, drain screen, spray hose.	☐
Verify the oven is level and installed on a solid, water resistant floor.	☐

SERVICE AGENCY:_____

START-UP DATE: _____

INSTALLATION NAME:_____

TECH SIGNATURE:_____

CUSTOMER SIGNATURE:_____

IMPORTANT SAFETY PRECAUTIONS

For safe release of the cooking compartment steam, initially open the door approximately 2" (50mm) only. Stand behind the door as the hot steam is released.

STEAM

DO NOT USE THE ATTACHED HAND-HELD HOSE TO SPRAY ANYTHING OTHER THAN THE INTERIOR OF THE COMBITHERM OVEN COMPARTMENT. AT NO TIME SHOULD THE EXTERIOR OF THE OVEN BE STEAM CLEANED, HOSED-DOWN WITH THE HAND-SPRAYER, FLOODED WITH WATER, OR FLOODED WITH LIQUID SOLUTION OF ANY KIND.

DO NOT USE THE SPRAY HOSE IN A HOT COOKING COMPARTMENT. ALLOW THE OVEN TO COOL TO A MINIMUM OF 150°F (66°C).

DO NOT USE HIGH PRESSURE WATER CLEANING METHODS ON THE INTERIOR OR EXTERIOR OF THE COMBITHERM OVEN.

DO NOT HANDLE PANS CONTAINING LIQUID OR SEMI LIQUID PRODUCTS POSITIONED ABOVE EYE LEVEL OF THE OPERATOR. SUCH PRODUCTS CAN SCALD AND CAUSE SERIOUS INJURY.

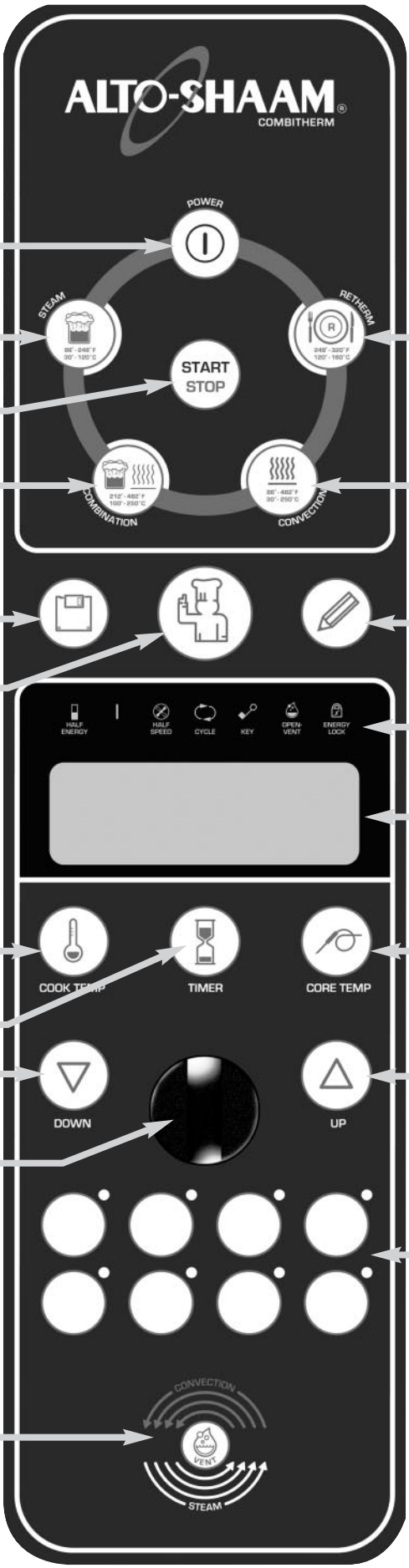
USE AUTHORIZED COMBITHERM LIQUID OVEN CLEANER ONLY.

UNAUTHORIZED CLEANING AGENTS MAY DISCOLOR OR HARM INTERIOR SURFACES OF THE OVEN. READ AND UNDERSTAND LABEL AND MATERIAL SAFETY DATA SHEET BEFORE USING THE OVEN CLEANER.

FOR OPERATOR SAFETY

NOTE AND OBSERVE ALL SAFETY PRECAUTIONS LOCATED THROUGHOUT THIS MANUAL.

CONTROL PANEL IDENTIFICATION



① *POWER ON/OFF KEY*

② *STEAM MODE KEY*

③ *START/STOP KEY*

④ *SUPERHEATED STEAM AND CONVECTION MODE KEY*

⑤ *PROGRAMMED MENU KEY*
DELUXE MODELS ONLY

⑥ *CHEF FUNCTION KEY*

⑦ *COOKING TEMPERATURE KEY*

⑧ *TIME KEY*

⑨ *DOWN ARROW KEY*

⑩ *ADJUSTMENT KNOB*

⑪ *MOISTURE VENT KEY*
ELECTRIC MODELS ONLY

⑫ *RETHERM MODE KEY*

⑬ *CONVECTION MODE KEY*

⑭ *PROGRAM INSTALL/EDIT KEY*
DELUXE MODELS ONLY

⑮ *FUNCTION & OPERATING INDICATORS*

⑯ *CONTROL PANEL DISPLAY*

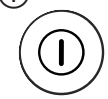
⑰ *CORE TEMPERATURE KEY*

⑱ *UP ARROW KEY*

⑲ *QUICK PROGRAM KEYS*
DELUXE MODELS ONLY

CONTROL PANEL IDENTIFICATION

① *POWER ON/OFF KEY*



Activates power to the oven and automatically fills the steam generator with water which will heat to a stand-by mode temperature of 150°F (65°C). The steam generator flush is also activated by pressing this key.

② *STEAM MODE KEY*

The oven will operate in the steam mode at a temperature range of 86°F to 248°F (30°C to 120°C).

- Automatic steaming at 212°F (100°C) **FACTORY-SET DEFAULT**.
- Quick steaming between 213°F and 248°F (101°C and 120°C).
- Low Temperature Steaming between 86°F and 211°F (30°C and 99°C).

③ *START/STOP KEY*

Initiates all cooking mode functions and programmed procedures stored in memory. Stops an activated cooking mode or programmed procedure currently in progress, and exits Chef function key.

④ *SUPERHEATED STEAM AND CONVECTION MODE KEY*

Selection key for the combination steam and convection cooking mode which can be set within a temperature range of 212°F to 482°F (100°C and 250°C).

⑤ *PROGRAMMED MENU KEY*

Shows a list menu in display ⑯ of all stored cooking programs and is also used to exit the list menu display. **DELUXE MODELS ONLY**.

⑥ *CHEF FUNCTION KEY*

Used to select programmed menu functions, various auxiliary functions, and several chef help instructions.

⑦ *COOKING TEMPERATURE KEY*

Used to set the required cooking temperature, to recall the set cooking temperature, or to check the actual oven temperature in conjunction with the down arrow key ⑨, the up arrow key ⑱ or the adjustment knob ⑩.

⑧ *TIME KEY*

Used to set the required cooking time or recall the set cooking time in conjunction with the down arrow key ⑨, the up arrow key ⑱ or the adjustment knob ⑩.

⑨ *DOWN ARROW KEY*

Used to decrease displayed cook temperature ⑦, time ⑧, or core temperature ⑰ and as a scrolling key for programming functions.

⑩ *ADJUSTMENT KNOB*

Serves the same function as the up and down arrow keys to increase or decrease the displayed cook temperature ⑦, time ⑧, or core temperature ⑰.

⑪ *MOISTURE VENT KEY* **ELECTRIC MODELS ONLY**

Immediately vents steam and condensate from the oven compartment while cooking in the Convection mode ⑬ or in the Superheated Steam and Convection mode ④.

⑫ *RETHERM MODE KEY*

Food rethermalization or reheating mode will operate with automatic steam injection at a temperature range of 248°F and 320°F (120°C and 160°C).

⑬ *CONVECTION MODE KEY*

Selection key for convection cooking without steam at a temperature range of 86°F to 482°F (30°C and 250°C).

⑭ *PROGRAM INSTALL AND EDIT KEY*

Used to create, change, duplicate, and delete programmed menus. **DELUXE MODELS ONLY**.

⑮ *FUNCTION & OPERATING INDICATORS*

Reduced Power

Key Lock

Reduced Fan Speed

Moisture Vent

Confirmation of Oven Operation

Peak Power Use Energy Protection

⑯ *CONTROL PANEL DISPLAY*

⑰ *CORE TEMPERATURE KEY*

Used to set the required internal product temperature, to recall the internal product temperature set by the operator, or to display the current internal temperature of the product in conjunction with the down arrow key ⑨, the up arrow key ⑱ or the adjustment knob ⑩.

⑱ *UP ARROW KEY*

Used to increase displayed cook temperature ⑦, time ⑧, or core temperature ⑰ and as a scrolling key for programming functions.

⑲ *QUICK PROGRAM KEYS*

Immediate access to frequently used operator set programs including cooking modes, cleaning, and other oven functions. **DELUXE MODELS ONLY**.

S-CONTROL PANEL IDENTIFICATION

① OFF POSITION

Maintains oven in a stand-by mode.

② STEAM

The oven will operate at a fixed steam temperature of 212° F (100°C).

③ COMBINATION

A combination of steam and convection heat to cook at a temperature between 86°F and 482°F (30°C to 250°C) to be set by the operator.

④ CONVECTION

Convection heat to cook without steam at a temperature between 86°F and 482°F (30°C and 250°C) to be set by the operator.

⑤ LOW STEAM

Low temperature steaming within an operator set temperature range of 86°F to 210°F (30°C and 99°C).

⑥ CLEANING FUNCTION

An automatic cleaning cycle to heat the oven to the correct temperature, followed by a manual application of Combitherm Liquid Oven Cleaner and a 10 minute steam cleaning cycle. An automatic boiler flush is initiated on boiler equipped models and a vinegar decalcification can also be conducted.

⑦ COOKING TEMPERATURE DIAL

To be manually set by the operator to the cooking temperature required.

⑧ OVEN DISPLAY

Indicates time remaining or interior oven temperature.

⑨ COOKING TIMER

⊖ Turned to the left for continuous cooking time or to decrease time in increments of one minute.

⊕ Turn to the right to set and increase time in increments of one minute.

⑩ OVEN TEMPERATURE

To be pressed to display interior oven temperature.

⑪ FULL SPEED FAN POSITION

⑫ HALF SPEED FAN POSITION

⑬ OVEN COOL-DOWN POSITION

Assists in cooling the oven at an accelerated pace when changing from high to lower temperature cooking. **The oven door should be open when using this feature.**

Preventive Maintenance

In addition to the routine cleaning and maintenance procedures, there are several additional steps to be taken for both sanitation purposes and to keep the oven running at top operating efficiency. These additional safeguards will help prevent inconvenient down time and costly repairs.

- DO NOT DISPOSE OF GREASE, FAT, OR SOLID WASTE DOWN THE OVEN DRAIN. Fats and solids will eventually coagulate in the drain system, causing blockage. Consequently, water will back-up into the condenser and interior oven compartment, resulting in an oven that is inoperable.
- MAKE CERTAIN THE DRAIN SCREEN IS ALWAYS IN PLACE. REMOVE ANY SOLID WASTE MATERIAL FROM THE DRAIN SCREEN BEFORE IT ENTERS THE DRAIN SYSTEM. The routine removal of solids from the drain screen will help prevent blockage.
- USE THE AUTHORIZED COMBITHERM OVEN CLEANER ONLY. The use of unauthorized cleaning agents may discolor or harm the interior surfaces of the oven.
- TO PROLONG THE LIFE OF THE DOOR GASKET, REMOVE AND CLEAN THIS ITEM DAILY. The acids and related compounds found in fat, particularly chicken fat, will weaken the composition of the gasket unless cleaned on a daily basis.
- TO ADDITIONALLY PROTECT GASKET LIFE, ALLOW OVEN DOOR TO REMAIN SLIGHTLY OPEN AT THE END OF THE PRODUCTION DAY. An open door will relieve the pressure on the door gasket.
- ROUTINELY CLEAN DOOR HINGES. Open oven door to relieve tension. Clean all parts of the hinge.

Routine Cleaning Requirements

DAILY OVEN CLEANING

To be performed at the end of each production day or between production shifts.

DAILY STEAM GENERATOR FLUSH

When operating the oven on a regular basis, the steam generator must be flushed once a day. This procedure will prevent lime deposits and scale build-up from forming in the steam generator. A steam generator flush is automatically initiated during the cleaning function on S-control models.

REGULAR DECALCIFICATION

It is VERY important to decalcify the steam generator, particularly in areas with extremely hard water. This procedure should be performed once a month, or more grequently depending on usage and water conditions in addition to the daily steam generator flush.

AUTOMATIC STEAM GENERATOR FLUSH

STANDARD CONTROL
DELUXE CONTROL

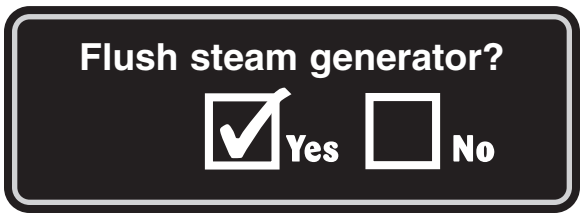
AT THE START OF EACH WORK DAY

STANDARD CONTROL
DELUXE CONTROL

Flushing the electric Combitherm steam generator on a daily basis helps to prolong the life of the steam generator heating elements and helps prevent the necessity of service requirements. The control provides this feature as an automatic function when the oven ON/OFF power key is pressed to the ON position at the start of each working day.

PRESS THE ON/OFF POWER KEY TO THE ON POSITION AT THE START OF THE DAY.

DISPLAY MESSAGE INDICATES:



YES

PRESS THE START KEY (START STOP) OR (CHEF) CHEF FUNCTION KEY TO BEGIN THE STEAM GENERATOR FLUSH.

The steam generator is automatically drained, flushed, and refilled with water within 5 minutes or less. Following this time period, the Combitherm is ready for operation.

NO

TO CANCEL THE STEAM GENERATOR FLUSH, ROTATE THE ADJUSTMENT KNOB ONE TURN TO THE RIGHT UNTIL "NO" IS HIGHLIGHTED IN THE DISPLAY.

PRESS THE START KEY (START STOP) OR (CHEF) CHEF FUNCTION KEY TO CONFIRM CANCELLATION.

If steam generator flush cancellation is not initiated within 10 seconds of the appearance of the display message, the flushing function will automatically start. Following cancellation, the Combitherm is ready for operation. The flushing process ***must*** be initiated manually at a later time during the working day if not conducted at startup.

MANUAL STEAM GENERATOR FLUSH

PERFORM DAILY WHEN THE STEAM GENERATOR FLUSH IS NOT PERFORMED AT THE START OF THE WORKING DAY.

WITH THE OVEN AT ROOM TEMPERATURE

1. Press the Power Switch to the OFF position, rotate the Steam Generator Drain Cap located at the back of the oven until water begins to flow from the four holes in the cap. In approximately 20 to 60 seconds, a sufficient quantity of water will have drained from the steam generator so that the drain cap can be completely removed.

2. As the water continues to flow from the generator, it will have a milky or cloudy appearance, which indicates deposits in the generator are beginning to flush through the system. Let the water continue to drain until the flow begins to subside.

3. When the flow begins to subside, remove the hand-held hose from the side of the oven and direct a stream of fresh water directly into the steam generator drain opening located directly behind Steam Generator Drain Cap. Repeat this procedure several times until the water begins to run clear.

4. Press the oven Power Switch to the ON position. When the audible signal is heard, press the Steam Mode Key. A new supply of fresh, cold water will begin to flow through the steam generator. Repeat this procedure several times until the water runs completely clear.

5. Once the water is completely clear, replace the Steam Generator Drain Cap over the steam generator drain by turning it clockwise, by hand, until there is a slight resistance.

DO NOT OVER-TIGHTEN STEAM GENERATOR DRAIN CAP.

COMBITHERM® CLEANING & MAINTENANCE

CAUTION

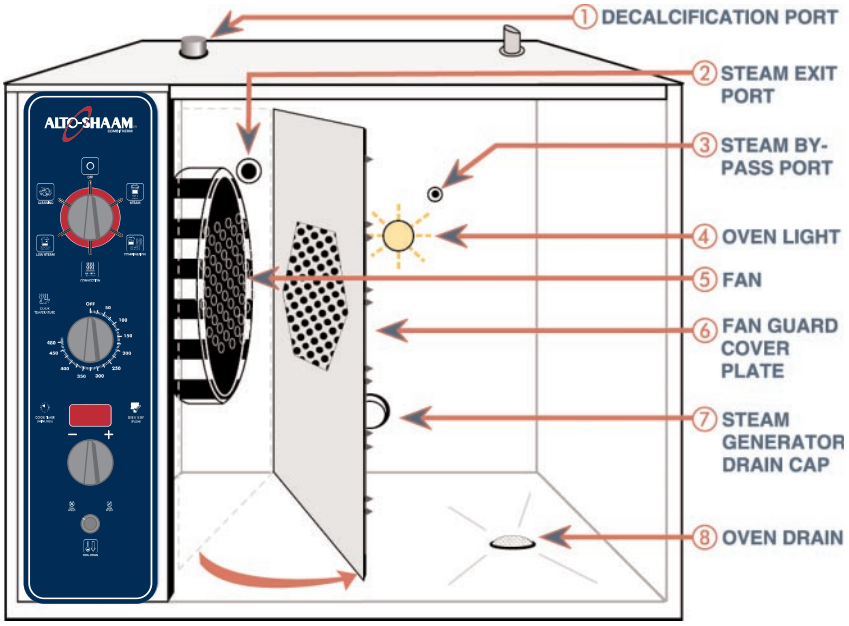
RUBBER GLOVES AND PROTECTIVE EYE WEAR MUST BE WORN WHEN USING THE OVEN CLEANER.

USE AUTHORIZED COMBITHERM LIQUID OVEN CLEANER ONLY

Unauthorized cleaning agents may discolor or harm interior surfaces of the oven. Read and understand label and material safety data sheet before using the oven cleaner.

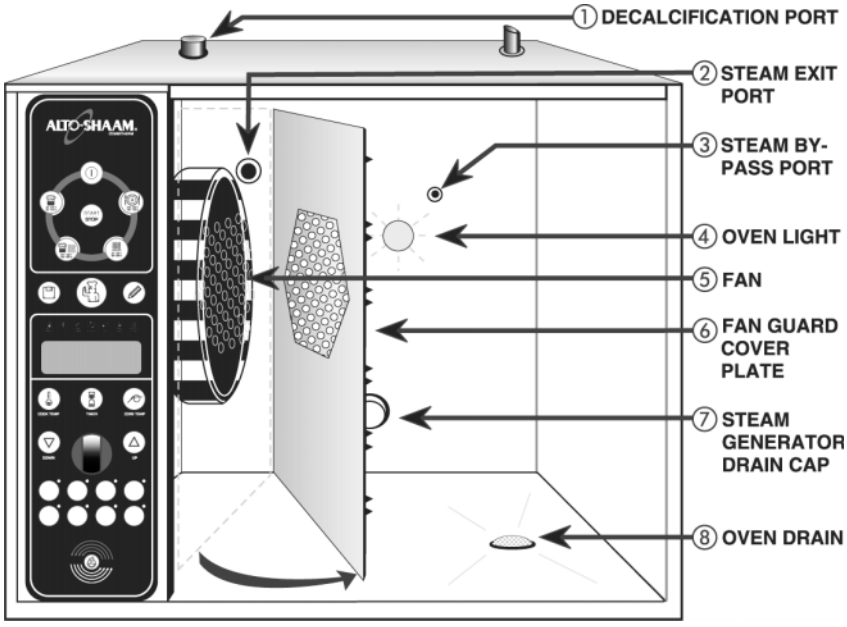
Causes severe burns. Do not get in eyes, on skin, or on clothing. Do not wear contacts. Harmful or fatal if swallowed. Do not breathe mist. Use in well ventilated area. Keep out of reach of children. Do not use on aluminum. Do not mix with anything but water.

S-CONTROL OPTION



THOROUGHLY RINSE EMPTY CONTAINER WITH WATER AND SAFELY DISCARD.

STANDARD CONTROL
DELUXE CONTROL



S-CONTROL OPTION

DAILY OVEN CLEANING

S-CONTROL OPTION

The Combitherm automatic cleaning function selects the proper temperature for each step of the cleaning process.

1. Remove all food scraps and residue from the oven drain.
   Close the oven door securely.
   Rotate the power knob to the cleaning symbol.

THE OVEN WILL BEGIN THE FIRST STEP IN A TWO-STEP CLEANING CYCLE
• **10 MINUTES** at full steam temperature of 212°F (100°C)

2. When the buzzer signals the end of the first step, open the oven door to deactivate the audible signal. **Cln** will appear in the display.

3. Wearing safety glasses and rubber gloves, remove the drain screen and spray Combitherm liquid oven cleaner directly into the oven drain ⑧. Replace the drain screen.

4. Generously spray the interior oven surfaces with an even coat of Combitherm Liquid Oven Cleaner. Spray all built-in components, shelves, side racks, and pans.

5. Loosen the thumb screw(s) and swing Fan Guard Cover Plate ⑥ toward the back of the oven. Spray the back of the Fan Guard Cover Plate, the oven fan ⑤, and the left-hand side of the oven. Close the swing-out Cover Plate ⑥. Lock the cover into place and tighten thumb screw(s).

6. Insert the Combitherm Liquid Oven Cleaner spray nozzle directly into the Steam By-Pass Port ③ and spray several times.

7. Securely close the oven door.

THE OVEN WILL BEGIN THE SECOND STEP IN THE TWO-STEP CLEANING CYCLE
• **10 MINUTES** at full steam temperature of 212°F (100°C)

8. When the buzzer signals the end of the second step, open the oven door to deactivate the audible signal.

9. Use the hand held hose and direct a stream of water into the Steam By-Pass Port ③ to rinse away oven cleaner residue.

10. Rinse the interior and all sprayed components with the hand-held hose. Make certain to thoroughly rinse all surfaces to remove any cleaning solution residue. Use a non-abrasive cleaning pad for any problem areas.

11. Loosen the thumb screw(s) and swing Fan Guard Cover Plate toward the back of the oven. Thoroughly rinse the back of the Fan Guard Cover Plate, the oven fan, and the left-hand side of the oven. Close the swing out Cover Plate. Lock the cover into place and tighten thumb screw(s).

LEAVE DOOR SLIGHTLY OPEN AFTER CLEANING

STANDARD CONTROL
DELUXE CONTROL

DAILY OVEN CLEANING

STANDARD CONTROL
DELUXE CONTROL

DO NOT SPRAY CLEANER INTO A HOT OVEN.

ALLOW THE OVEN TO COOL TO 150°F (60°C).

The temperature in the display indicates the air temperature inside the oven compartment and not the interior walls of the oven. Always make certain to allow the oven walls to cool to a minimum of 150°F (60°C) before spraying the compartment with oven cleaner.

1. Remove all food scraps and residue from the oven drain ⑧.

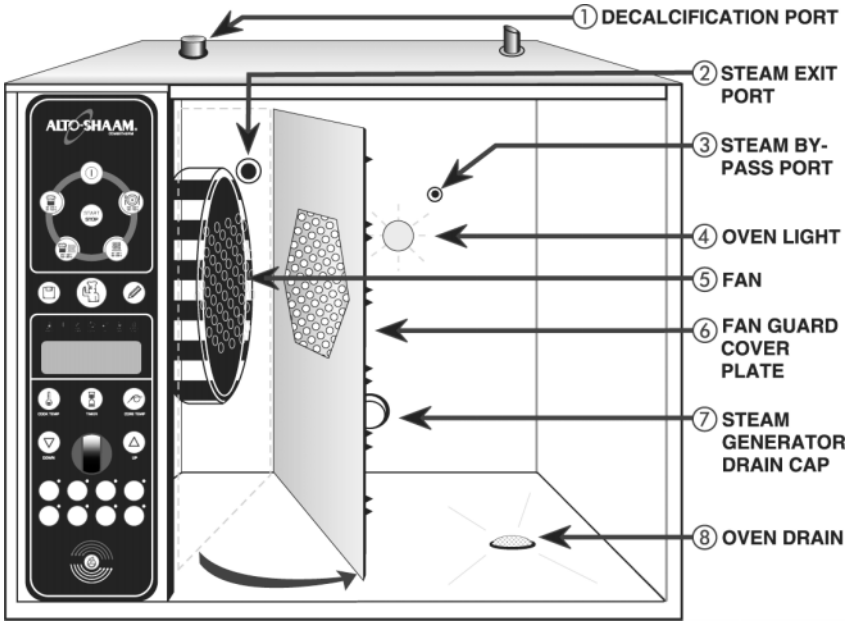
2. Wearing safety glasses and rubber gloves, remove the drain screen and spray Combitherm liquid oven cleaner directly into the oven drain ⑧. Replace the drain screen.

3. Generously spray the interior oven surfaces with an even coat of Combitherm Liquid Oven Cleaner. Spray all built-in components, shelves, side racks, and pans.

4. Loosen the thumb screw(s) and swing Fan Guard Cover Plate ⑥ toward the back of the oven. Spray the back of the Fan Guard Cover Plate, the oven fan ⑤, and the left-hand side of the oven. Close the swing out Cover Plate ⑥. Lock the cover into place and tighten thumb screw(s).

5. Insert the Combitherm Liquid Oven Cleaner spray nozzle directly into the Steam By-Pass Port ③ and spray several times.

6. Securely close the oven door.



AUTOMATIC CLEANING PROGRAM

STANDARD CONTROL
DELUXE CONTROL

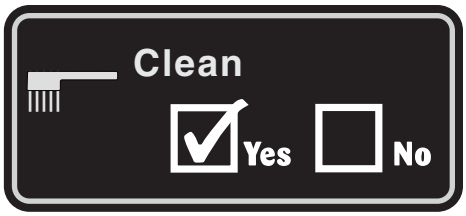
The Combitherm automatic cleaning function selects the proper temperature for each step of the cleaning process.

With the oven power ⏻ on:

PRESS THE CHEF FUNCTION KEY.

➡ Rotate the adjustment knob until the clean symbol is highlighted in the display.

PRESS THE CHEF FUNCTION KEY.



➡ Press the up △ and down ▽ arrow keys or rotate the adjustment knob to select YES for the automatic cleaning function.

PRESS THE CHEF FUNCTION KEY TO CONFIRM THE SETTING AND START THE CLEANING PROGRAM.

THE OVEN WILL BEGIN A 20 MINUTE, 2-STEP CLEANING CYCLE.

- 10 minutes at 86°F (30°C) to allow the cleaning agent to work
- 10 minutes at full steam temperature of 212°F (100°C) to clean the oven

FOR DELUXE OVENS WITH A PROGRAMMED MENU KEY

FOLLOW STEPS 1 THROUGH 6 ON THE PRECEDING PAGE.

With the oven power ⏻ on:

PRESS THE PROGRAMMED MENU KEY.

➡ Rotate the adjustment knob to program **250 = CLEAN**.

START STOP **PRESS THE START KEY.**

DELUXE MODELS CAN ALSO BE CLEANED AS SHOWN IN THE PREVIOUS INSTRUCTIONS.

7. When the buzzer signals the end of the cleaning process, press the start/stop key START STOP to deactivate the audible signal or open the oven door.

8. With the door open, use the hand held hose and direct a stream of water into the Steam By-Pass Port ③ to rinse away oven cleaner residue.

9. Rinse the interior and all sprayed components with the hand-held hose. Make certain to thoroughly rinse all surfaces to remove any cleaning solution residue. Use a non-abrasive cleaning pad for any problem areas.

10. Loosen the thumb screw(s) and swing Fan Guard Cover Plate ⑥ toward the back of the oven. Thoroughly rinse the back of the Fan Guard Cover Plate, the oven fan, and the left-hand side of the oven. Close the swing out Cover Plate ⑥. Lock the cover into place and tighten thumb screw(s).

LEAVE DOOR SLIGHTLY OPEN AFTER CLEANING

COMBITHERM® DECALCIFICATION

S-CONTROL OPTION

S-CONTROL OPTION

It is ***VERY*** important to decalcify the oven, particularly in areas with extremely hard water.

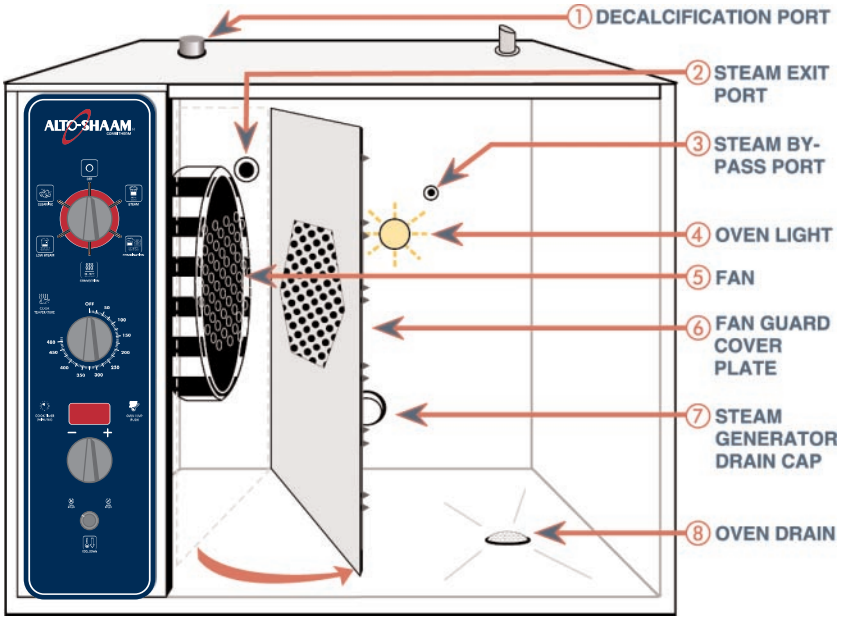
PERFORM ONCE A MONTH
in addition to the daily steam generator flush.

WITH THE OVEN AT ROOM TEMPERATURE

1. Begin decalcification with the power switch in the OFF position.

2. Rotate the Steam Generator Drain Cap ⑦ until water begins to flow from the four holes in the cap. In approximately 20 to 60 seconds, a sufficient quantity of water will have drained from the steam generator so that the drain cap can be completely removed.

3. As the water continues to flow from the generator, it will have a milky or cloudy appearance, which indicates deposits in the generator system are beginning to flush out. Let the water continue to drain until the flow completely subsides. Replace the Steam Generator Drain Cap ⑦ by turning it clockwise until there is a slight resistance.



4. Unscrew the cap from the Decalcification Port ①. With the use of a funnel, pour one-half gallon (c. 2 liters) of distilled white vinegar into the Decalcification Port.

5. Replace the cap on the Decalcification Port ① and tighten securely.

CAUTION

Scalding water will erupt from the Decalcification Port ① when the oven is operating unless the cap is replaced and tightened.

COMBITHERM® DECALCIFICATION

S-CONTROL OPTION

TURN THE SELECTION KNOB TO THE STEAM POSITION.

THE WATER IN THE STEAM GENERATOR WILL BEGIN TO HEAT. ALLOW THE OVEN TO REMAIN IN THIS POSITION FOR A MINIMUM PERIOD OF 10 MINUTES TO DECALCIFY THE STEAM GENERATOR.

***DO NOT* TURN THE TIMER ON. Severe burns could occur.**

CHEF OPERATING TIP

In the case of extreme calcification build-up such as in areas with very hard water, ovens can be left in this condition overnight. Follow the remaining instructions at the start of the next production day. This procedure will help keep the oven operating at peak efficiency.

After a period of 10 minutes or longer —

TURN THE SELECTION KNOB TO THE *OFF* POSITION.

6. ***USING HAND PROTECTION***, open the oven door and rotate the Steam Generator Drain Cap ⑦ until water begins to flow from the four holes in the cap. In approximately 20 to 60 seconds, a sufficient quantity of water will have drained from the steam generator so that the drain cap can be completely removed. Let the water continue to drain until the flow completely subsides.

7. Loosen the thumb screw(s) and swing Fan Guard Cover Plate ⑥ toward the back of the oven. Using the hand-held hose, direct a stream of water directly into the Steam Exit Port ② several times. Close the swing-out Cover Plate ⑥. Lock the cover into place and tighten thumb screw(s). Close the oven door.

TURN THE SELECTION KNOB TO THE *STEAM* POSITION.

A new supply of fresh water will begin to fill the steam generator and will flush out all remaining vinegar from the steam generator.

AFTER JUST 2 MINUTES OF OPERATION IN THE STEAM MODE, TURN THE SELECTION KNOB TO THE *OFF* POSITION.

ANY ADDITIONAL LENGTH OF TIME WILL RESULT IN A LOW WATER ERROR OCCURRENCE.

OPEN THE OVEN DOOR.

8. ***USING HAND PROTECTION***, replace the Steam Generator Drain Cap by turning it clockwise until there is a slight resistance. At the end of the production day, leave the door slightly ajar.

DO NOT COOK IN ANY PROGRAM MODE WITH VINEGAR IN THE STEAM GENERATOR SYSTEM.

CAUTION

DURING DECALCIFICATION THE WATER FLOWING FROM THE DRAIN CAP IS EXTREMELY HOT! USE HAND PROTECTION WHEN TOUCHING THE STEAM

COMBITHERM® DECALCIFICATION

STANDARD CONTROL
DELUXE CONTROL

It is ***VERY*** important to decalcify the oven, particularly in areas with extremely hard water.

STANDARD CONTROL
DELUXE CONTROL

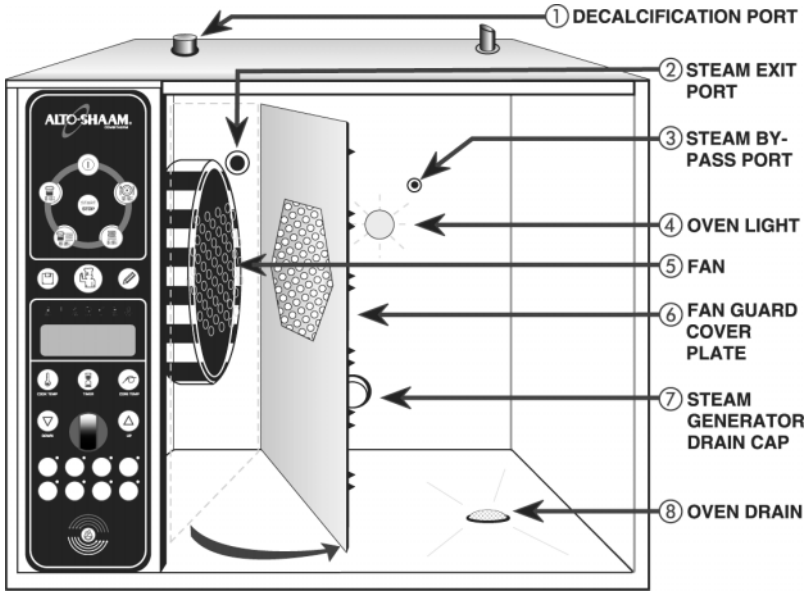
PERFORM ONCE A MONTH
in addition to the daily steam generator flush.

WITH THE OVEN AT ROOM TEMPERATURE

1. Begin decalcification with the power switch in the OFF position.

2. Rotate the Steam Generator Drain Cap ⑦ until water begins to flow from the four holes in the cap. In approximately 20 to 60 seconds, a sufficient quantity of water will have drained from the steam generator so that the drain cap can be completely removed.

3. As the water continues to flow from the generator, it will have a milky or cloudy appearance, which indicates deposits in the generator system are beginning to flush out. Let the water continue to drain until the flow completely subsides. Replace the Steam Generator Drain Cap ⑦ by turning it clockwise until there is a slight resistance.



4. Unscrew the cap from the Decalcification Port ①. With the use of a funnel, pour one-half gallon (c. 2 liters) of distilled white vinegar into the Decalcification Port.

5. Replace the cap on the Decalcification Port ① and tighten securely.

CAUTION

Scalding water will erupt from the Decalcification Port ① when the oven is operating unless the cap is replaced and tightened.

COMBITHERM® DECALCIFICATION

STANDARD CONTROL
DELUXE CONTROL

PRESS THE ON/OFF POWER KEY TO THE ON POSITION.

THE WATER IN THE STEAM GENERATOR WILL BEGIN TO HEAT. ALLOW THE OVEN TO REMAIN IN THIS POSITION FOR A MINIMUM PERIOD OF 10 MINUTES TO DECALCIFY THE STEAM GENERATOR.

In the case of extreme calcification build-up such as in areas with very hard water, ovens can be left in this condition overnight. Follow the remaining instructions at the start of the next production day. This procedure will help keep the oven operating at peak efficiency.

After a period of 10 minutes or longer —

PRESS THE ON/OFF POWER KEY TO THE OFF POSITION.

6. ***USING HAND PROTECTION***, rotate the Steam Generator Drain Cap ⑦ until water begins to flow from the four holes in the cap. In approximately 20 to 60 seconds, a sufficient quantity of water will have drained from the steam generator so that the drain cap can be completely removed. Let the water continue to drain until the flow completely subsides.

7. Open the oven door. Loosen the thumb screw(s) and swing Fan Guard Cover Plate ⑥ toward the back of the oven. Using the hand-held hose, direct a stream of water directly into the Steam Exit Port ② several times. Close the swing-out Cover Plate ⑥. Lock the cover into place and tighten thumb screw(s). Close the oven door.

PRESS THE ON/OFF POWER KEY TO THE ON POSITION.

PRESS THE STEAM MODE KEY.

A new supply of fresh water will begin to fill the steam generator and will flush out all remaining vinegar from the steam generator.

START STOP **AFTER JUST 2 MINUTES OF OPERATION IN THE STEAM MODE, PRESS THE START/STOP KEY. ANY ADDITIONAL LENGTH OF TIME WILL RESULT IN A LOW WATER ERROR OCCURRENCE.**

PRESS THE ON/OFF POWER KEY TO THE OFF POSITION AND OPEN THE OVEN DOOR.

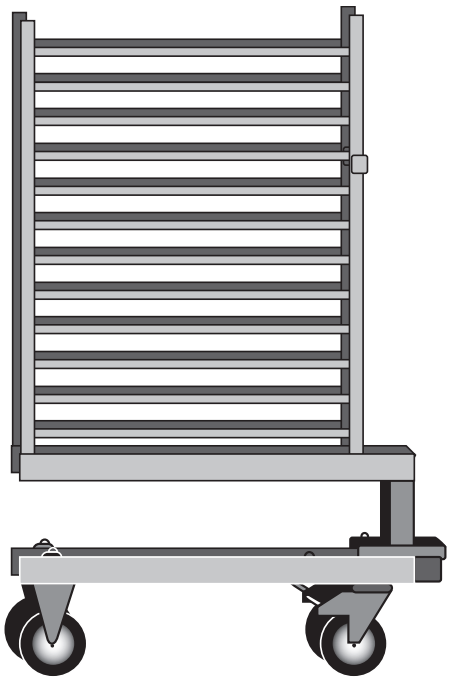
8. ***USING HAND PROTECTION***, replace the Steam Generator Drain Cap by turning it clockwise until there is a slight resistance. At the end of the production day, leave the door slightly ajar.

DO NOT COOK IN ANY PROGRAM MODE WITH VINEGAR IN THE STEAM GENERATOR SYSTEM.

CAUTION

DURING DECALCIFICATION THE WATER FLOWING FROM THE DRAIN CAP IS EXTREMELY HOT! USE HAND PROTECTION WHEN TOUCHING THE STEAM GENERATOR DRAIN CAP. DO NOT TOUCH THE WATER FLOWING OUT OF THE STEAM GENERATOR DRAIN CAP OR STEAM GENERATOR DRAIN.

ROLL-IN CART/FOOD TROLLEY CLEANING (ON EQUIPPED MODELS)



1. Remove food trolley to a cart wash area. Trolleys may be cleaned using any mild cleaning detergent and warm water.
2. Hand wipe all framing, slides, drip pan, and base. Thoroughly clean debris from the casters. A spray hose can be used for easier cart cleaning.
3. Remove detergent solution with warm water.
4. Wipe or spray with a sanitizing solution designed for use on metal and vinyl food contact surfaces.
5. Allow trolley to air dry.

As an alternative, trolleys can be sprayed with Combitherm liquid oven cleaner while inside the oven. Allow the trolley to remain in the oven through the normal cleaning cycle, followed by steps 2 through 5 above.

DAILY GASKET CLEANING

It is important to prolong the life of the oven gasket by cleaning this item on a daily basis. Routine cleaning will help protect the composition of the gasket from deterioration caused by acidic foods. After allowing the oven to cool, remove pull-out gasket and wash in hot, soapy water. ***Do not*** place in the dishwasher.

Always replace the gasket before cleaning the oven interior or operating the oven.

EMERGENCY OPERATION

In the event of an error code, operation of the Combitherm can be continued on a limited basis for a short duration. Cooking times may be longer than normal operation and close monitoring of the cooking process is recommended. Contact an authorized service agency immediately if the problem cannot be rectified with simple steps in the troubleshooting guidelines located in this manual. Error conditions under which continued operation can be conducted are indicated by YES in the chart shown below.

When the oven malfunctions, an error code will appear in the display.

START STOP PRESS THE START/STOP KEY TO ACKNOWLEDGE THE ERROR.
The keys for the usable operational modes will begin to flash and can be operated normally.

SELECT AND PRESS ONE OF THE COOKING MODES INDICATED.
The oven control will only respond to the oven mode keys flashing.

SET THE OVEN CONTROLS AS IF OPERATING UNDER NORMAL CIRCUMSTANCES.
Depending on the error code involved, oven function, such as temperature range, may be limited.

START STOP PRESS THE START/STOP KEY TO BEGIN THE COOKING PROCESS.

START STOP PRESS THE START/STOP KEY WHEN THE TIMER EXPIRES.

WHEN THE OVEN FAULT IS CORRECTED, THE COMBITHERM WILL RETURN TO NORMAL OPERATION.

ERROR CODE	DISPLAY MESSAGE	GAS	ELECTRIC	STEAM[1] MODE	SUPERHEATED STEAM MODE	CONVECTION MODE	RETHERM MODE	DELTA-T MODE
E01	Low water level	YES	YES	NO	NO	up to 356°F (180°C)	NO	YES
E02	EL-temperature too high CONTROL COMPARTMENT TEMP	YES	YES	YES	Up to 284°F (140°C)	Up to 284°F (140°C)	Up to 284°F (140°C)	Up to 284°F (140°C)
E03	Fan Fault BLOWER FAN	NO	YES	Up to 212°F (100°C)	NO	NO	NO	NO
E04	EL-fan fault CONTROL COOLING FAN	NO	YES	YES	Up to 284°F (140°C)	Up to 284°F (140°C)	Up to 284°F (140°C)	Up to 284°F (140°C)
E05	Gas fault	YES	NO	YES	YES	YES	YES	YES
E15	Condenser oven temperature HIGH CONDENSATE TANK TEMP	YES	YES	NO	NO	Up to 356°F (180°C)	NO	YES
E21	Oven probe error TEMPERATURE PROBE	NO	YES	212°F only (100°C)	NO	NO	NO	NO
E22	CTC error TEMPERATURE PROBE	YES	YES	YES	YES	YES	YES	YES
E23	SG-probe error STEAM GENERATOR PROBE B4	YES	YES	YES	YES	YES	YES	YES
E24	Bypass probe error	NO	YES	Up to 210°F (99°C)	NO	YES	NO	YES
E25	Condenser probe error B3 PROBE	NO	YES	YES [2]	Up to 356°F [2] (180°C)	Up to 356°F [2] (180°C)	Up to 356°F [2] (180°C)	YES [2]
E26	SG probe error STEAM GENERATOR PROBE	NO	YES	YES	YES	YES	YES	YES
E23 & E26	SG probe error[3] STEAM GENERATOR PROBE B4	NO	YES	YES [3]	YES [3]	YES [3]	NO	YES [3]
E33	SG heat error STEAM GENERATOR ELEMENT	NO	YES	YES	YES	YES	YES	YES
E34	Steam Generator pump error	NO	YES	YES	YES	YES	YES	YES
E81	Program memory error	YES	YES	YES	YES	YES	YES	YES
E83	Algorithm error	YES	YES	YES	YES	YES	YES	YES
E89	12C error	YES	YES	YES	YES	YES	YES	YES

[1] Cooking time increases significantly. Food on the upper shelves is finished first.

[2] Water injection into the condenser is activated for the entire cooking mode (high water consumption).

[3] When error codes E23 and E26 appear simultaneously, steam generator does not preheat.

CONTROL RESET

There is a remote possibility in the day-to-day operation of the Combitherm that the control could lock or freeze. If this occurs, the control is easy to reset.

PRESS AND HOLD the Power Key for a period of 5 seconds.

Release the Power Key.

The control will reset itself within approximately 15 seconds.

WHEN RESET, THE DISPLAY WILL INDICATE THE TIME AND DATE AND THE CONTROLS WILL BE FULLY FUNCTIONAL.

TROUBLESHOOTING

In the event of a Combitherm malfunction during operation, an error code and message will appear in the display to assist in finding a rapid solution to the problem. The following is a list of all error codes including the possible cause along with a solution.

CODE	DESCRIPTION OF ERROR	POSSIBLE CAUSE/REMEDY
E01	Low water level: Sufficient water level in steam generator has not been reached with 3 minutes.	Water tap is closed. Filter in solenoid valve or water connection is clogged. Water level probe is calcified or defective. Solenoid valve Y1 is defective. Pressure loop is calcified. Steam generator drain cap is not water tight.
E01	Low water level: Water pressure is under 11 PSI (0.7 bar) after the solenoid valve is opened for 5 seconds.	Water tap is closed. Filter in solenoid valve or water connection is clogged. Solenoid valve Y1 is defective.
E02	Excessive temperature in service area: An additional fan will engage at a temperature of 113°F (45°C) and the error message will occur at a service area temperature of 176°F (80°C).	Auxiliary 12 V fan does not turn on due to defective thermostat or contactor. Ventilation vents are blocked due to inefficient distance from wall at installation site. Minimum distance to equipment such as fryers, grills, kettles, etc. has not been maintained.
E03	Fan motor shuts down from a tripped internal PTC.	A phase from the main power supply is missing. The fan motor is defective. Power phase reversed causing fan to run in reverse. A fuse is tripped.
E03	Motor shuts down fan.	Trip circuit has been set too low. Direction of motor rotation is wrong. A phase is missing from the main power supply. The motor protection switch is defective. Power phase reversed causing fan to run in reverse. The fan motor is defective.
E04	Auxiliary 120 fan motor not running.	Auxiliary fan is defective. Defective wiring or loose connection to auxiliary fan.
E11	Oven probe (N6 thermocouple) measures a temperature in excess of 572°F (300°C).	Convection contactors are burned and no longer disengage. Motor not operating due to two defective F10 fuses.
E13	Steam generator probe (B4 thermocouple) measures a temperature in excess of 248°F (120°C).	Calcification in steam generator. Water level probe is grounded causing immersion elements to energize.
E15	Condenser probe (B3 thermocouple) measures a temperature in excess of 212°F (100°C).	Water tap is closed. Oven is connected to warm water supply. Inlet filter on solenoid valve is dirty. Condenser cooling solenoid valve or solenoid valve coil is defective.

TROUBLESHOOTING

ERROR CODE	DESCRIPTION OF ERROR	POSSIBLE CAUSE/REMEDY
E23	Steam generator probe (B4 thermocouple) is interrupted.	Probe connection is bad at X6 on the control module. Steam generator probe (B4) is defective. Bad probe connection.
E25	Condenser probe (B3 thermocouple) is interrupted.	Probe connection is bad at X6 on the control module. Condenser probe (B3) is interrupted or defective. Bad probe connection.
E26	Safety temperature probe (N8 thermocouple) is interrupted.	Probe connection is bad at X6 on the control module. STB steam generator probe (N8) is interrupted or defective. Bad probe connection.
E27	STB (N8 thermocouple) measures a temperature in excess of 266°F (130°C).	Calcification in steam generator Water level probe is grounded causing immersion elements to energize.
E33	Steam generator probe (B3) fails to measure increase in temperature to 41°F (5°C) within a 3 minute period of time.	Immersion heater defective. Heater contactors defective. B3 probe calcified.
E34	Steam generator pump malfunction.	Pump (M4) defective. Pump blocked or dirty. Ground short on water level probe due to calcification. Fill opening in water settling area of level probe is calcified.
E80	ID (identity) error.	The electronic control cannot differentiate between gas or electric operation and disconnects all circuit connections. Contact problem on X3 connection.
E95	Software error.	Communication problem between software and hardware. Incompatibility between software and hardware.

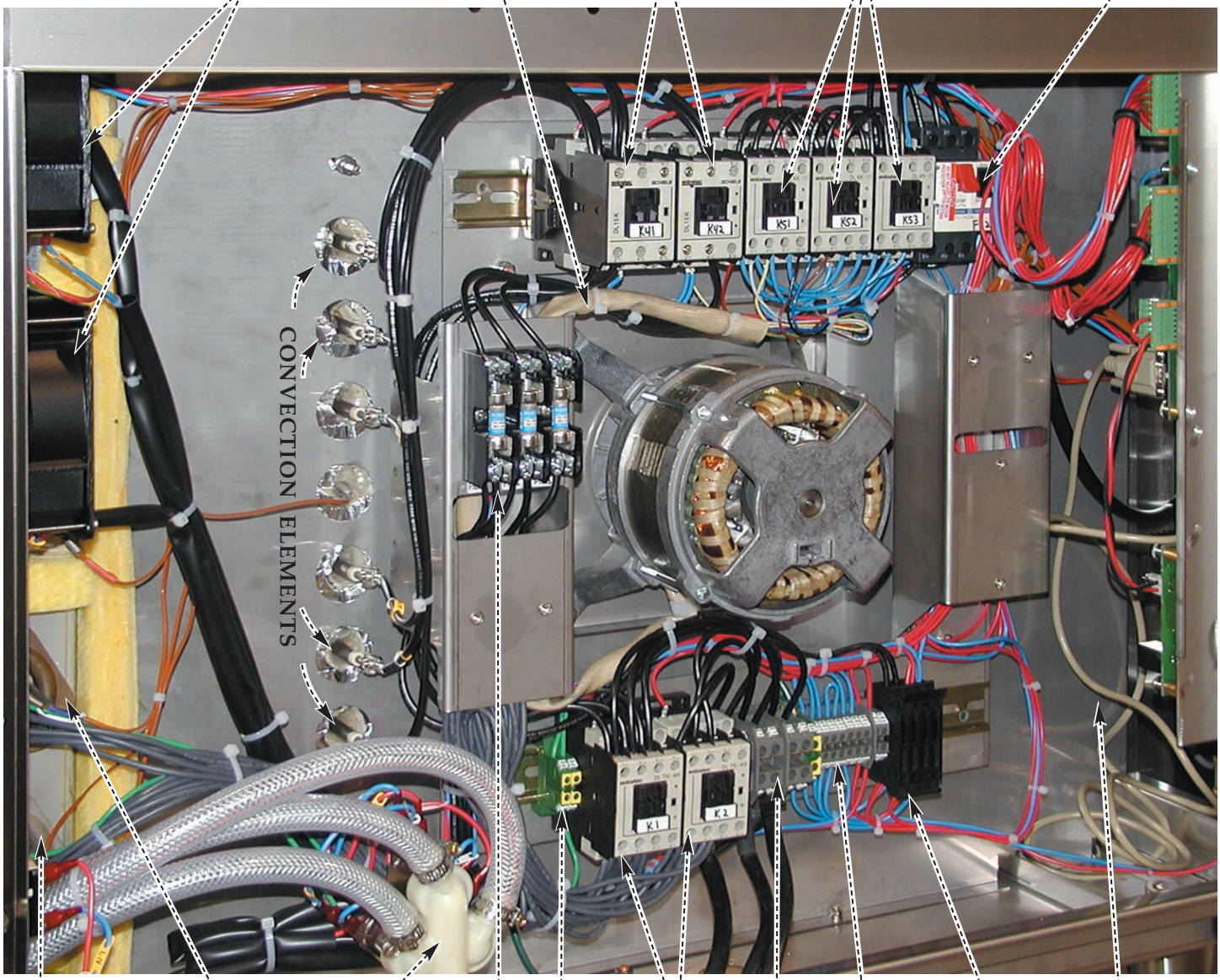
Alto-Shaam has established a twenty-four hour emergency service call center to offer immediate customer access to a local authorized service agency outside of standard business hours. The emergency service access is provided exclusively for Alto-Shaam equipment and is available throughout the United States through the use of Alto-Shaam's toll-free number. Emergency service access is available seven days a week including holidays.

SERVICE VIEW • OVEN INTERIOR

REPRESENTING MODELS: 6•10, 7•14, 10•10, 10•18, 12•20

SERVICE VIEW • SIDE PANEL ACCESS

PICTURED: 7•14ML 208/240V 3Ph
GENERALLY REPRESENTING MODELS: 6•10, 10•10, 10•18, 12•20



Fan Intake
FA-3568

Wiring Diagram

Contactor, 50 Amp
CN-3731

Contactor, 20 Amp
CN-3652

Motor Protection
Switch 3 PH only,
SW-33378

Immersion
Element
TOP: EL-33411

Valve Solenoid
Triple,
VA-25481

Contactor, 25 Amp
CN-3654

Cable Connection
CB-33750

Immersion
Element
BOTTOM EL-33412

Fuseholder, FU-3842
Fuse, SC15, FU-3775

Terminal, 4mm
TM-3778

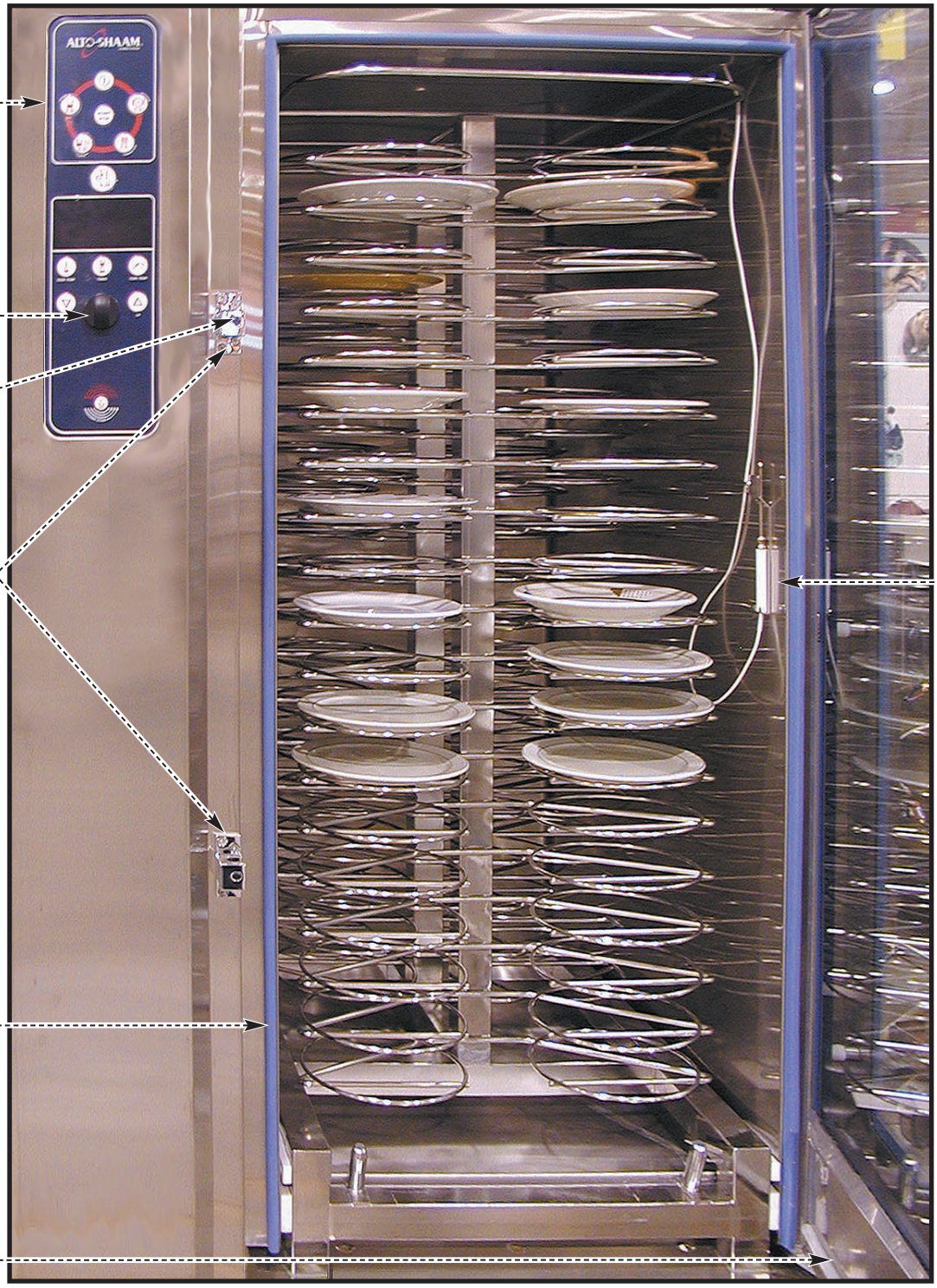
Fuseholder, FU-33756 (4)
Fuse 6.3 Amp, FU-33452 (2)
Fuse, 2 Amp, FU-33184 (2)

Terminal, 4mm
TM-3781

Terminal, 16mm
TM-3779

SERVICE VIEW

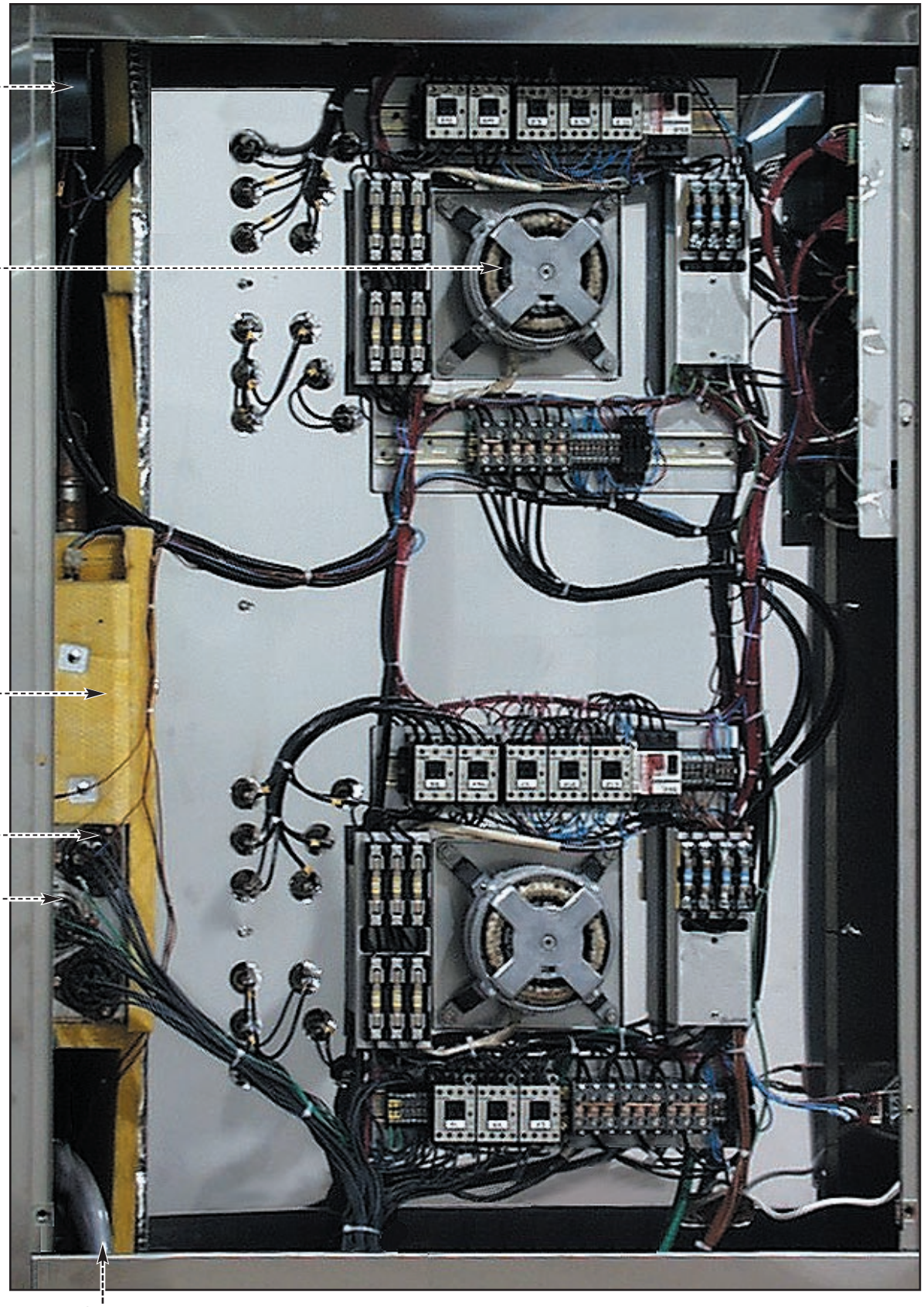
Model 20•20ML SHOWN WITH OPTIONAL ROLL-IN PLATE CART



Model 20•20ML

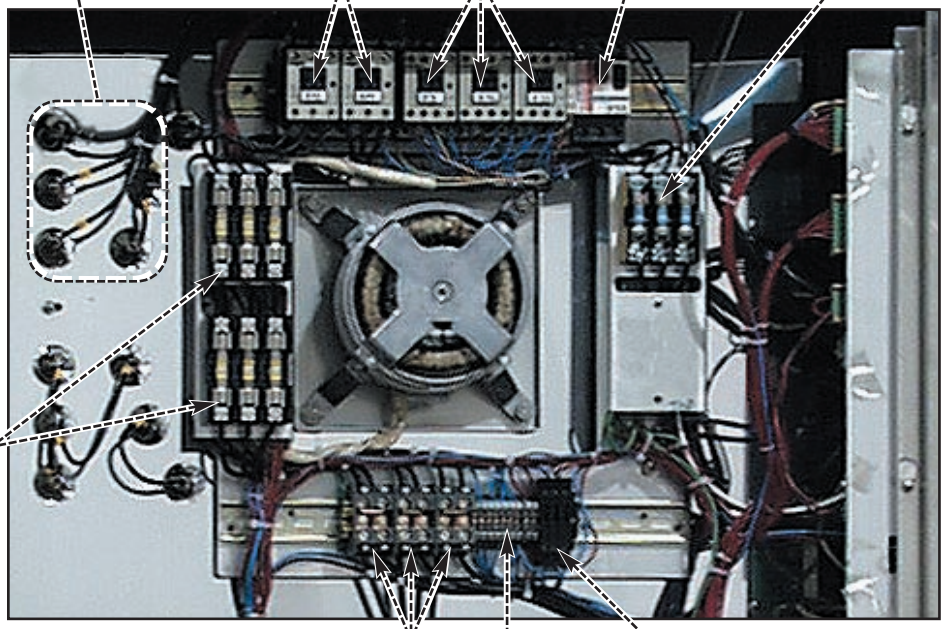
SERVICE VIEW • SIDE PANEL ACCESS

Model 20•20ML

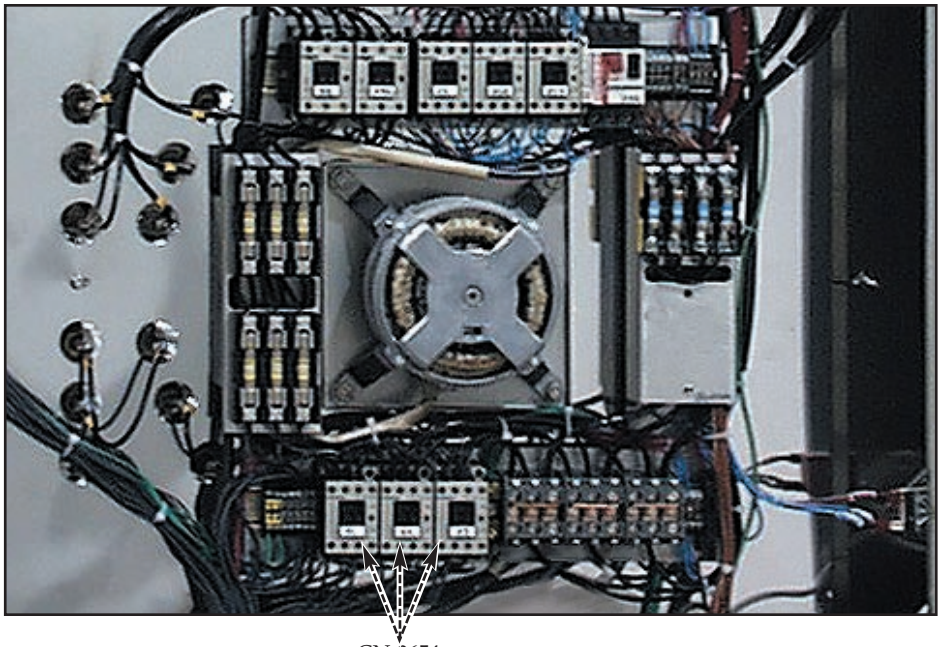


Model 20•20ML

TOP MOTOR AND WIRING TREE ASSEMBLY



BOTTOM MOTOR AND WIRING TREE ASSEMBLY



Parts List • Combitherm ML Electric						
PART DESCRIPTION	6•10	7•14	10•10	10•18	12•20	20•20
DOOR AND EXTERIOR PARTS:						
DOOR, ARM (MARINE MODELS ONLY)	CT-22887	CT-22887	CT-22887	CT-22887	CT-22887	CT-22887
DOOR, ARM PLATE (MARINE MODELS ONLY)	CT-22885	CT-22885	CT-22885	CT-22885	CT-22885	CT-22885
DOOR BUSHING, ARM (MARINE MODELS ONLY)	CT-22886	CT-22886	CT-22886	CT-22886	CT-22886	CT-22886
DOOR, CLIP	LT-25080	LT-25080	LT-25080	LT-25080	—	—
DOOR DRAIN, OUTER	DA-25073	DA-25073	DA-25073	DA-25073	N/A	N/A
DOOR, HANDLE INSERT	HD-23084	HD-23084	HD-23084	HD-23084	HD-23084	HD-23084
DOOR HANDLE, RIGHT HAND	HD-2934	HD-2934	HD-2934	HD-2934	HD-2934	HD-2934
DOOR LATCH, INNER GUARD PLATE	LT-25394	LT-25394	LT-25394	LT-25394	—	—
DOOR LATCH, RIGHT HAND	LT-25058	LT-25058	LT-25058	LT-25058	LT-25058	LT-25058
DOOR LATCH INSET, RIGHT HAND	LT-25836	LT-25836	LT-25836	LT-25836	LT-25836	LT-25836
DOOR, LATCH MAGNET SWITCH	LT-3738	LT-3738	LT-3738	LT-3738	LT-3738	LT-3738
DOOR LATCH MOUNTING HARDWARE	SC-22768	SC-22768	SC-22768	SC-22768	SC-22768	SC-22768
DOOR, INNER BUMPER	BM-25072	BM-25072	BM-25072	BM-25072	BM-25072	BM-25072
DOOR, INNER BUMPER STOP	BM-25089	BM-25089	BM-25089	BM-25089	BM-25089	BM-25089
DOOR ASSEMBLY	5000439	5000282	5000470	5000351	5000786	5000542
DRIP TRAY	5000294	5000294	5000294	5000294	N/A	N/A
GASKET, DOOR	GS-2952	GS-23903	GS-2953	GS-22694	GS-2955	GS-2954
HINGE, INNER DOOR HINGE	HG-25111	HG-25111	HG-25111	HG-25111	N/A	N/A
HINGE, INNER DOOR TOP CORNER	HG-25390	HG-25390	HG-25390	HG-25390	N/A	N/A
HINGE, INNER DOOR BUTTON CORNER	HG-25391	HG-25391	HG-25391	HG-25391	N/A	N/A
HINGE, LOWER PLATE	HG-25100	HG-25100	HG-25100	HG-25100	HG-25100	HG-25159
HINGE, LOWER DOOR RATCHET		HG-25101	HG-25101	HG-25101	HG-25101	HG-25101
HINGE, UPPER PLATE	HG-25099	HG-25099	HG-25099	HG-25099	HG-25099	HG-25160
HINGE, UPPER DOOR RATCHET	HG-25079	HG-25079	HG-25079	HG-25079	HG-25079	HG-25079
HINGE, UPPER PLATE MOUNTING HARDWARE:						
— SCREW, AXIS	SC-25102	SC-25102	SC-25102	SC-25102	SC-25102	SC-25102
— WASHER, COVERING	WS-25127	WS-25127	WS-25127	WS-25127	WS-25127	WS-25127
— WASHER, ECCENTRIC BLOCK	WS-25124	WS-25124	WS-25124	WS-25124	WS-25124	WS-25124
— WASHER, SCHMORR STYLE	WS-25478	WS-25478	WS-25478	WS-25478	WS-25478	WS-25478
— HINGE, TOP STOP	HG-25077	HG-25077	HG-25077	HG-25077	HG-25077	HG-25077
PANEL, CONTROL OVERLAY (STANDARD MODELS)	PE-25319	PE-25319	PE-25319	PE-25319	PE-25319	PE-25319
PANEL, CONTROL OVERLAY (DELUXE MODELS)	PE-25048	PE-25048	PE-25048	PE-25048	PE-25048	PE-25048
PANEL LOCK-DOWN SCREW	CL-24089	CL-24089	CL-24089	CL-24089	CL-24089	CL-24089
LOCK CLIP	WS-24090	WS-24090	WS-24090	WS-24090	WS-24090	WS-24090
PROGRAM QUICK KEYS PICTURE GRAPHICS (DELUXE MODELS ONLY)	PE-25345	PE-25345	PE-25345	PE-25345	PE-25345	PE-25345

Parts List • Combitherm ML Electric

PART DESCRIPTION	6•10	7•14	10•10	10•18	12•20	20•20
ELECTRICAL AND ELECTRONIC PARTS:						
BOARD, DISPLAY CONTROL	BA-33732	BA-33732	BA-33732	BA-33732	BA-33732	BA-33732
— ADJUSTING ROCKER (COMPLETE)	KN-33734	KN-33734	KN-33734	KN-33734	KN-33734	KN-33734
— ADJUSTING ROCKER KNOB	KN-33735	KN-33735	KN-33735	KN-33735	KN-33735	KN-33735
— BUSHING, DISTANCE	BU-25094	BU-25094	BU-25094	BU-25094	BU-25094	BU-25094
— NUT, KNURLED M3	NU-25095	NU-25095	NU-25095	NU-25095	NU-25095	NU-25095
BOARD, RELAY CONTROL	BA-33736	BA-33736	BA-33736	BA-33736	BA-33736	BA-33736
BOARD, POWER SUPPLY	BA-33554	BA-33554	BA-33554	BA-33554	BA-33554	BA-33554
BOARD, LED CLOSED SYSTEM	BA-33733	BA-33733	BA-33733	BA-33733	BA-33733	BA-33733
BOARD, PROGRAM MODULE (DELUXE MODELS)	BA-33742	BA-33742	BA-33742	BA-33742	BA-33742	BA-33742
— CONNECTOR, X11/X12 (DELUXE MODELS ONLY)	CR-33743	CR-33743	CR-33743	CR-33743	CR-33743	CR-33743
BOARD, COMMUNICATION 5000KM (OPTION)	BA-33738	BA-33738	BA-33738	BA-33738	BA-33738	BA-33738
CONTACTORS, 20A, TYPE # DL4K-01	CN-3652	CN-3652	CN-3652	CN-3652	CN-3652	CN-3652
CONTACTORS, 25A, TYPE # DL7K-4H	CN-3654	CN-3654	CN-3654	CN-3654	CN-3654	CN-3654
CONTACTORS, 50A, TYPE # DL15K-00	CN-3731	CN-3731	CN-3731	CN-3731	CN-3731	CN-3731
ELEMENT, HEATING, FLANGED IMMERSION 6 kW	—	EL-33412	EL-33412	EL-33412	EL-33412	EL-33412
ELEMENT, HEATING, FLANGED IMMERSION 9 kW	EL-33411	EL-33411	EL-33411	EL-33411	EL-33411	EL-33411
ELEMENT, HEATING, CONVECTION (208-240V, 1PH)	EL-3854	EL-3761	EL-3761	—	—	—
(208-240V, 3PH)	EL-3854	EL-3761	—	EL-3979	EL-3853	EL-3853
(440-480V, 3PH)	—	EL-3761	EL-3761	EL-3853	EL-3853	EL-3853
ELEMENT, HEATING, CONVECTION MNTG HARDWARE						
— WASHERS, FLAT	WS-22294	WS-22294	WS-22294	WS-22294	WS-22294	WS-22294
— WASHERS, SPLIT LOCK	WS-22300	WS-22300	WS-22300	WS-22300	WS-22300	WS-22300
— HEX NUTS	NU-22286	NU-22286	NU-22286	NU-22286	NU-22286	NU-22286
— O-RING	SA-23932	SA-23932	SA-23932	SA-23932	SA-23932	SA-23932
— WASHER, CONICAL	13607	13607	13607	13607	13607	13607
FAN, INTAKE, AUXILIARY DC4112NX	FA-3568	FA-3568	FA-3568	FA-3568	FA-3568	FA-3568
FUSE, SLOW-BLO 2AMP, 250V	FU-33184	FU-33184	FU-33184	FU-33184	FU-33184	FU-33184
FUSE, SC-5 (440-480V, 3PH ONLY)	—	FU-33581	FU-33581	FU-33581	FU-33581	FU-33581
FUSE, NEOZED 6.3AMP	FU-33452	FU-33452	FU-33452	FU-33452	FU-33452	FU-33452
FUSE HOLDER, 6.3AMP (380-415V, 3PH ONLY)	—	FU-33451	—	—	—	—
FUSE, 15AMP CLASS G (208-240V, 1PH ONLY)	FU-3775	FU-3775	FU-3775	FU-3775	FU-3775	FU-3775
FUSE HOLDER, 15AMP CLASS G (208-240V, 3PH)	FU-3772	FU-3772	FU-3772	FU-3772	FU-3775	FU-3772
FUSE HOLDER, 15AMP, 3POL, CLASS G (208-240V, 3PH)	FU-3842	FU-3842	FU-3842	FU-3842	FU-3842	FU-3842
FUSE, 45AMP, MP, CLASS G	—	—	FU-33040	FU-33040	FU-33040	FU-33040
FUSE HOLDER, DIN RAIL MOUNT WITH DISCONNECT	FU-33756	FU-33756	FU-33756	FU-33756	FU-33756	FU-33756
FUSE HOLDER, 60AMP, 3POL, CLASS G	—	FU-33039	FU-33039	FU-33039	FU-33039	FU-33039

Parts List • Combitherm ML Electric

PART DESCRIPTION	6•10	7•14	10•10	10•18	12•20	20•20
ELECTRICAL AND ELECTRONIC PARTS CONTD:						
MOTOR CAPACITOR, 12MFD (208-240V, 1PH ONLY)	FA-33499	FA-33499	PA-33499	—	—	—
MOTOR CAPACITOR, 25MFD (208-240V, 1PH ONLY)	FA-33465	FA-33465	FA-33465	—	—	—
MOTOR, SUB ASSEMBLY (208-240V, 1PH ONLY)	—	—	MO-33466			
MOTOR, SUB ASSEMBLY (208-240V, 1PH/3 PH)	5000276	5000276	5000276	5000276	5000276	5000276
MOTOR, SUB ASSEMBLY (440-480V, 3 PH)	—	—	—	—	—	5000602
— FAN, WHEEL	WH-3708	WH-3708	WH-3708	WH-3734	WH-3734	WH-3734
MOTOR, SUB ASSEMBLY (380-415V NPE & 440-480V 3PH)	—	5000602	5000602	5000602	—	—
PROBE, CONDENSATE	PR-33724	PR-33751	PR-33751	PR-33751	PR-33751	PR-33751
PROBE, OVEN TEMPERATURE	PR-33724	PR-33724	PR-33724	PR-33724	PR-33784	PR-33784
PROBE, PRODUCT (MULTI-POINT CTC)	PR-33746	PR-33746	PR-33746	PR-33746	PR-33786	PR-33746
PROBE, PROTECTION (STEAM)	PR-33759	PR-33759	PR-33759	PR-33759	PR-33759	PR-33759
PROBE, STEAM STANDBY	PR-33724	PR-33724	PR-33724	PR-33724	PR-33724	PR-33724
PROBE, STEAM BYPASS	PR-33724	PR-33751	PR-33751	PR-33751	PR-33751	PR-33751
— PROBE SEAL	SA-22322	SA-22322	SA-22322	SA-22322	SA-22322	SA-22322
— PROBE SEAL, THERMOCOUPLE	SA-25061	SA-25061	SA-25061	SA-25061	SA-25061	SA-25061
PROBE, WATER LEVEL	PR-3707	PR-3706	PR-3706	PR-3706	PR-3706	PR-3706
PROBE, WATER LEVEL TIP CONNECTORS	CR-3851	CR-3851	CR-3851	CR-3851	CR-3851	CR-3851
SWITCH, MOTOR PROTECTION (208-240V, 1PH ONLY)	SW-33500	SW-33500	SW-33500	—	—	—
SWITCH, MOTOR PROTECTION (3PH ONLY)	SW-33378	SW-33378	SW-33378	SW-33378	SW-33378	SW-33378
TERMINAL, GROUND	TM-3781	TM-3781	TM-3781	TM-3781	TM-3781	TM-3781
TERMINAL, GROUND X10	TM-3932	TM-3932	TM-3932	TM-3932	TM-3932	TM-3932
(440V, 3 PH)	—	TM-3782	TM-3782	TM-3782	TM-3782	TM-3782
TERMINAL PARTITION	TM-3783	TM-3783	TM-3783	TM-3783	TM-3783	TM-3783
	TM-3785	TM-3785	TM-3785	—	—	—
(440V, 3 PH)	—	—	TM-3786	TM-3786	TM-3786	TM-3786
TERMINAL, PLUG	TM-3926	TM-3926	TM-3926	TM-3926	TM-3926	TM-3926
TERMINAL BLOCK X1	TM-33747	TM-33747	TM-33747	TM-33747	TM-33747	TM-33747
TERMINAL BLOCK X2	TM-33748	TM-33748	TM-33748	TM-33748	TM-33748	TM-33748
TERMINAL BLOCK X3	TM-33749	TM-33749	TM-33749	TM-33749	TM-33749	TM-33749
TERMINAL BLOCK X6 (CONNECTOR, 16 POLE)	TM-33773	TM-33773	TM-33773	TM-33773	TM-33773	TM-33773
TERMINAL BLOCK X7 (CONNECTOR, 9 POLE)	TM-33774	TM-33774	TM-33774	TM-33774	TM-33774	TM-33774
TERMINAL BLOCK X10	TM-3779	TM-3779	TM-3779	TM-3780	TM-3780	TM-3780
TERMINAL BLOCK X10 & X11	TM-3778	TM-3778	TM-3778	TM-3778	TM-3778	TM-3778

Parts List • Combitherm ML Electric

PART DESCRIPTION	6•10	7•14	10•10	10•18	12•20	20•20
ELECTRICAL AND ELECTRONIC PARTS CONTD:						
— TERMINAL JUMPER BAR (2 POLE)	TM-33674	TM-33674	TM-33674	TM-33674	TM-33674	TM-33674
— TERMINAL JUMPER BAR (3 POLE)	TM-33106	TM-33106	TM-33106	TM-33106	TM-33106	TM-33106
— TERMINAL JUMPER BAR (2 POLE)	TM-33675	TM-33675	TM-33675	TM-33064	TM-33064	TM-33064
— TERMINAL JUMPER BAR (3 POLE)	TM-3847	TM-3847	—	—	—	—
— TERMINAL JUMPER BAR (4 POLE)	TM-3787	TM-3787	TM-3787	TM-3787	TM-3787	TM-3787
THERMOSTAT, SAFETY	TT-3750	TT-3750	TT-3750	TT-3750	TT-3750	TT-3750
(440-480V, 3PH ONLY)	TT-3750	TT-3750	TT-3750	TT-3750	TT-3750	TT-3750
TRANSFORMER (440-480V, 3PH ONLY)	—	TN-33344	TN-33344	TN-33344	TN-33344	TN-33344
VALVE, TRIPLE SOLENOID	VA-25481	VA-25481	VA-25481	VA-25481	VA-25481	VA-25481
MECHANICAL PARTS:						
BUSHING, MOTOR ASSEMBLY	BU-23894	BU-23894	BU-23894	BU-23894	BU-23894	BU-23894
BUSHING, SOCKET MEMBRANE, VENT	BU-22204	BU-22204	BU-22204	BU-22204	BU-22204	BU-22204
DRAIN SCREEN	DA-2943	DA-2943	DA-2943	DA-2943	DA-2943	DA-2943
HOSE, CLEAR FLEX	HO-22255	HO-22255	HO-22255	HO-22255	HO-22255	HO-22255
LAMP, BULB	LP-3686	LP-3686	LP-3686	LP-3686	LP-3686	LP-3686
LAMP, GLASS COVER	LP-33413	LP-33413	LP-33413	LP-33413	LP-33413	LP-33413
LAMP SEAL	SA-23934	SA-23934	SA-23934	SA-23934	SA-23934	SA-23934
LAMP, SOCKET RECEPTACLE	RP-3986	RP-3986	RP-3986	RP-3986	RP-3986	RP-3986
LEGS, 2" (51mm) ADJUSTABLE	LG-23907	LG-23907	LG-23907	LG-23907	FE-23822	FE-23822
PEDESTAL STAND, ADJUSTABLE (MARINE MODELS ONLY)	CT-2607779	CT-2607779	CT-2607779	CT-2607779	—	—
PEDESTAL STAND, ADJUSTABLE — WITH SCREWED FLANGE PLATE (MARINE MODELS ONLY)	—	—	—	—	FE-23822	FE-23822
PROBE PLUG ADAPTOR	PG-3826	PG-3826	PG-3826	PG-3826	PG-3826	PG-3826
PROBE PLUG	PG-3827	PG-3827	PG-3827	PG-3827	PG-3827	PG-3827
PROBE PLUG SEAL	SA-22199	SA-22199	SA-22199	SA-22199	SA-22199	SA-22199
PROBE SEAL, INSERT	SA-22322	SA-22322	SA-22322	SA-22322	SA-22322	SA-22322
PROBE SEAL, CONE	SA-22321	SA-22321	SA-22321	SA-22321	SA-22321	SA-22321
PROBE SEAL, TOP	SA-22320	SA-22320	SA-22320	SA-22321	SA-22321	SA-22320
SCREW COVER, M6 NATURAL	SC-23936	SC-23936	SC-23936	SC-23936	SC-23936	SC-23936
STEAM GENERATOR OUTLET CAP	CP-22758	CP-22758	CP-22758	CP-22758	CP-22758	CP-22758
STEAM GENERATOR OUTLET CAP WASHER, SILICONE	WS-22751	WS-22751	WS-22751	WS-22751	WS-22751	WS-22751
TROLLEY BRIDGE, LOWER FRONT	—	—	—	—	12773	12773
TROLLEY GASKET, BOTTOM	—	—	—	—	GS-22576	GS-22576

Parts List • Combitherm ML Electric

PART DESCRIPTION	6•10	7•14	10•10	10•18	12•20	20•20
PLUMBING PARTS:						
CONDENSATE TANK COVER NUT	SC-24070	SC-24070	SC-24070	SC-24070	SC-24070	SC-24070
CONDENSATE TANK COVER SCREW	SC-23936	SC-23936	SC-23936	SC-23936	SC-23936	SC-23936
CONDENSER, INJECTION NOZZLE	5000284	5000284	5000284	5000284	5000284	5000284
CONDENSER, O-RING	SA-22212	SA-22212	SA-22212	SA-22212	SA-22212	SA-22212
CONDENSER, O-RING 8x2.5 EPDM	SA-23109	SA-23109	SA-23109	SA-23109	SA-23109	SA-23109
PIPE, DRAIN EXTENSION	PP-25137	PP-25137	PP-25137	PP-25137	PP-25137	PP-25137
HAND SHOWER ASSEMBLY:						
— HAND SHOWER (FULL ASSEMBLY)	14442	14442	14442	14577	14577	14577
— HOSE, BALL VALVE	VA-22684	VA-22684	VA-22684	VA-22684	VA-22684	VA-22684
— HOSE, SPRAY HANDLE	PB-23920	PB-23920	PB-23920	PB-23920	PB-23920	PB-23920
— HOSE ASSEMBLY	PB-23922	PB-23922	PB-23922	PB-24066	PB-24066	PB-24066
— HOSE, SPRAY NOZZLE	PB-23919	PB-23919	PB-23919	PB-23919	PB-23919	PB-23919
— HOSE WASHERS, FLAT SEAL - 3/4" (19mm)	WS-22207	WS-22207	WS-22207	WS-22207	WS-22207	WS-22207
HOSE, CONNECTOR ELBOW WITH SEAL	HO-22116	HO-22116	HO-22116	HO-22116	HO-22116	HO-22116
HOSE, CONNECTOR ELBOW SEAL	WS-22208	WS-22208	WS-22208	WS-22208	WS-22208	WS-22208
HOSE, PUMP	HO-25070	HO-25070	HO-25070	HO-25070	HO-25070	HO-25070
HOSE, RADIATOR	HO-22254	HO-22254	HO-22254	HO-22254	HO-22254	HO-22254
HOSE, STEAM BYPASS	HO-2957	HO-2957	HO-2957	HO-2957	HO-2957	HO-2957
PROBE, MEASURE WELD	5000283	5000283	5000283	5000283	5000283	5000283
PUMP, STEAM GENERATOR DRAIN	DA-24973	DA-24973	DA-24973	DA-24973	DA-24973	DA-24973
— PUMP, MOUNTING HARDWARE	1000719	1000719	1000719	1000719	1000719	1000719
STEAM GENERATOR DRAIN ELBOW	EB-25106	EB-25106	EB-25106	EB-25106	EB-25106	EB-25106
STEAM GENERATOR INJECTION NOZZLE	5000292	5000292	5000292	5000292	5000292	5000292
SCREEN FILTER	FI-2946	FI-2946	FI-2946	FI-2946	FI-2946	FI-2946
TROLLEY PARTS:						
TROLLEY CASTERS, 5" (127mm) RIGID	—	—	—	—	CS-23126	CS-23126
TROLLEY CASTERS, 5" (127mm) SWIVEL WITH BRAKE	—	—	—	—	CS-23127	CS-23127
— MOUNTING HARDWARE, FLAT WASHER	—	—	—	—	WS-22095	WS-22095
— MOUNTING HARDWARE, LOCK WASHER	—	—	—	—	WS-22096	WS-22096
— MOUNTING HARDWARE, CAP NUT	—	—	—	—	NU-22097	NU-22097
TROLLEY DRIP PAN	—	—	—	—	11747	11747
TROLLEY HANDLE	—	—	—	—	FR-22715	FR-22715
TROLLEY GUIDE BLOCK, TEFLON®	—	—	—	—	BK-22100	BK-22100
TROLLEY SHELF	—	—	—	—	SH-22473	SH-22473
TROLLEY SHELF LOCK	—	—	—	—	LK-22556	LK-22556

Parts List • Combitherm ML Electric

PART DESCRIPTION	6•10	7•14	10•10	10•18	12•20	20•20
S-Control Parts:						
Oven Temperature Probe	PR-33724	PR-33724	PR-33724	PR-33724	PR-33724	PR-33724
S-Control Relay Board	BA-34031	BA-34031	BA-34031	BA-34031	BA-34031	BA-34031
Power Supply Board	BA-33554	BA-33554	BA-33554	BA-33554	BA-33554	BA-33554
Communication Cable	CB-34033	CB-34033	CB-34033	CB-34033	CB-34033	CB-34033
Program Board	BA-34030	BA-34030	BA-34030	BA-34030	BA-34030	BA-34030
Temperature Board	BA-34029	BA-34029	BA-34029	BA-34029	BA-34029	BA-34029
Timer/Spead Board	BA-34028	BA-34028	BA-34028	BA-34028	BA-34028	BA-34028
Program/Temperature Knob	KN-34037	KN-34037	KN-34037	KN-34037	KN-34037	KN-34037
Timer Knob	KN-34036	KN-34036	KN-34036	KN-34036	KN-34036	KN-34036
Speed Knob	KN-34035	KN-34035	KN-34035	KN-34035	KN-34035	KN-34035

TRANSPORTATION DAMAGE and CLAIMS

All Alto-Shaam equipment is sold F.O.B. shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, it is a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the equipment is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the material is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until you have made a proper count and inspection of all merchandise received.
3. Note all damage to packages directly on the carrier's delivery receipt.
4. Make certain the driver signs this receipt. If he refuses to sign, make a notation of this refusal on the receipt.
5. If the driver refuses to allow inspection, write the following on the delivery receipt:

   Driver refuses to allow inspection of containers for visible damage.

6. Telephone the carrier's office immediately upon finding damage and request an inspection. Mail a written confirmation of the time, date, and the person called.
7. Save any packages and packing material for further inspection by the carrier.
8. Promptly file a written claim with the carrier and attach copies of all supporting paperwork.

We will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. We cannot, however, file any damage claims for you, assume the responsibility of any claims, nor accept deductions in payment for such claims.

ALTO-SHAAM LIMITED WARRANTY

Alto-Shaam, Inc. warrants to the original purchaser that any original part that is found to be defective in material or workmanship will, at our option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

The labor warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

The parts warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

Exceptions to the one year part warranty period are as listed:

A. Halo Heat cook/hold ovens include a five (5) year parts warranty on the heating element. Labor will be covered under the terms of the standard warranty period of one (1) year or fifteen (15) months.

B. Alto-Shaam Quickchillers include a five (5) year parts warranty on the refrigeration compressor. Labor will be covered under the terms of the standard warranty period of one (1) year or fifteen (15) months.

This warranty does not apply to:

1. Calibration.
2. Replacement of light bulbs and/or the replacement of display case glass due to damage of any kind.
3. Equipment damage caused by accident, shipping, improper installation or alteration.
4. Equipment used under conditions of abuse, misuse, carelessness or abnormal conditions.
5. Any losses or damage resulting from malfunction, including loss of product or consequential or incidental damages of any kind.
6. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

This warranty is exclusive and is in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose. In no event shall the Company be liable for loss of use, loss of revenue, or loss of product or profit, or for indirect or consequential damages. This warranty is in lieu of all other warranties expressed or implied and Alto-Shaam, Inc. neither assumes or authorizes any persons to assume for it any other obligation or liability in connection with Alto-Shaam equipment.

ALTO-SHAAM, INC.

Warranty effective January 1, 2000

RECORD THE MODEL AND SERIAL NUMBER OF THE OVEN FOR EASY REFERENCE. ALWAYS REFER TO BOTH MODEL AND SERIAL NUMBER IN ANY CONTACT WITH ALTO-SHAAM REGARDING THE OVEN.

Model Number: _____ Date Installed: _____

Voltage: _____ Purchased From: _____

Serial Number: _____ _____

W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 • U.S.A.

PHONE: 262.251.3800
800.558.8744 U.S.A./CANADA

FAX: 262.251.7067 • 800.329.8744 U.S.A./CANADA
262.251.1907 INTERNATIONAL

WEBSITE:
www.alto-shaam.com

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